# An Address
ON
# THE EXISTENCE OF ORGANIC DISEASE IN THE ABSENCE OF OBVIOUS SYMPTOMS.

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GENTLEMEN,—The diseases which I wish to bring before your notice this evening form one of the many groups included under the general term of "latent diseases," but this expression is liable to some ambiguity owing to the fact that it is used for widely different conditions. The expression "latent disease" is often applied to the period that may intervene between the infection of the patient and the production of obvious signs and symptoms. In some maladies, as, for instance, syphilis or hydrophobia, this period may be unduly prolonged in exceptional circumstances, but I do not propose to deal with the many problems connected with this subject this evening. In other instances gross organic diseases may be present without attracting the attention of the patient either by symptoms or physical signs, and it is well known, to quote an extreme case, that large external tumours may sometimes be present which must have obviously existed for a considerable period and yet the patient's attention has only been attracted to the condition perhaps for a few days. Again, it is not uncommon for the onset of acute diseases to be ushered in with extremely equivocal symptoms. Thus, to take a well-known illustration, the onset of pneumonia may be characterised by an almost complete absence of chest symptoms, together with the presence of others of a meningeal or abdominal type. In these circumstances, unless great care is exercised, very serious errors of diagnosis and treatment may be made.

Although perhaps all these conditions might fall within the title of this address I do not propose to discuss such diseases to-night but to restrict my observations to the consideration of the occurrence or presence of serious and generally chronic diseases where no marked symptoms are present but yet where a careful examination will not fail to reveal the presence of the malady. The importance of the subject is increased by the fact that in a very large proportion of such cases the insidious malady present is a fatal one and not uncommonly an immediately fatal one. For our purposes as practitioners it is essential to be as accurate as possible in our diagnosis of disease and for the purposes of diagnosis classification of disease is essential.

Diseases may be classified in a great variety of ways, from an etiological or pathological standpoint, and the latter in many instances, though not in all, is probably the more sound and scientific. For the purposes of the clinician it is certainly more useful and probably equally accurate to employ a classification based on the natural history of diseases—in other words, a classification based on the character of the symptoms presented. One may on this basis divide most maladies into three great groups: the acute, the chronic, and the latent, based on the presence or absence and the severity, if present, of the symptoms. The importance of the thorough study of symptoms must never be overlooked, especially when we remember that in many diseases symptoms only are present and probably in all diseases symptoms are the initial manifestations of the disorders. Our diagnosis of some diseases is entirely dependent on our accurate knowledge and capability of eliciting the presence of symptoms, and it is probable that the earliest recognition of all diseases is to be effected rather by an intelligent appreciation of the possible significance of symptoms than by the detection of physical signs. Not only is this the case, but it may be said that prognosis depending, as it often does, on the extent of a morbid lesion, is not always to be accurately gauged by physical signs. The extent of the lesions of organic disease is usually greater than what would have been expected from the physical signs, notwithstanding the great value of these in the recognition of disease. For this reason, as well as for the preceding ones, the intelligent study of symptoms is a matter of fundamental importance.

Although most diseases can be divided into the acute, the chronic, and the latent, according to the violence, if present, or the absence of symptoms, as the case may be, it must not be overlooked that acute symptoms may be produced, not only by the onset of acute diseases, but also by chronic and sometimes also by diseases hitherto latent and therefore producing no symptoms. The development of acute symptoms in these conditions may be due to a variety of causes.

1. In some instances the occurrence of acute symptoms in the course of chronic and especially of latent disease may be due to an acute exacerbation in the morbid process. Familiar instances of this may be seen in perforative peritonitis. The perforation of a gastric or of a typhoid ulcer will lead to the production of symptoms more or less characteristic of the condition, provided the perforation occurs in a patient who has presented the symptoms of the underlying chronic or acute disorder, as the case may be. In a considerable proportion of cases, however, such perforation occurs in patients who have shown no symptoms of gastric ulcer or of typhoid fever; in other words, in cases where these diseases have run a latent course. The violent and acute symptoms characteristic of perforation occurring in such cases will produce a clinical picture which may be indistinguishable from that seen in such an acute disease as the most violent form of appendicitis. These diseases afford a very good illustration of the onset of acute symptoms being sometimes due to an exacerbation or sudden increase in the extent of the underlying lesion and not dependent on the onset of an acute disease in a previously healthy person.

2. The onset of acute symptoms in latent disease is not, however, always dependent on a sudden increase of the lesion, as in the instances mentioned; more often it is dependent merely on a progressive development of the underlying malady. The sudden occurrence of acute uræmia in chronic renal disease affords a good illustration of this mode of causation. It is often supposed that the sudden development of acute symptoms in latent and chronic diseases is to be regarded as a result of the development of an acute and additional lesion. Thus the occurrence of uræmia in chronic Bright's disease is sometimes looked upon as dependent on the development of acute nephritis. This, however, is by no means invariably the case, and both in experimental physiology and pathology many instances are to be found of the occurrence of sudden and violent symptoms as the mere result of a slowly progressive lesion. In the case of glands—such as the thyroid, the suprarenal, and the pancreas—it is well known that very large quantities of these glands may be removed experimentally without producing any marked result, and that the subsequent removal of a further small amount, and in some instances a very small amount, may be followed by the immediate production of all the effects characteristic of the total loss of the gland. Thus seven-eighths of the pancreas may be removed without any appreciable ill-effects; trenching on the remaining eighth is immediately followed by the development of marked results. Removal of all the thyroidal and para-thyroidal tissue, with the exception of one para-thyroid, is not necessarily followed by permanent ill-effects; but the removal of that one para-thyroid or of all the para-thyroid, leaving the thyroid, is immediately followed by the development of the characteristic phenomena of athyroidea. It can be seen from these illustrations that the sudden development of acute symptoms in the course of a chronic or latent disease is not necessarily to be regarded as indicative of the onset of an acute lesion.

3. The onset of acute symptoms in the course of diseases hitherto latent may be dependent, not so much on any further development of the initial lesion, but rather on the presence of a complication; many illustrative instances of this are available in clinical medicine. Diabetes mellitus may not uncommonly, especially in the middle-aged, run practically a latent course and the gross underlying disease may not be detected until diabetic coma ensues as the result of some intercurrent illness or perhaps as a sequel to traumatism or to fatigue. Many a case of diabetes has not been recognised owing to the patient not having sought advice owing to the absence of symptoms until a complication, such as coma or gangrene, has ensued as the result perhaps of a trivial injury. Another familiar instance of the same class of facts is afforded by the occurrence of retention of urine

revealing the presence of some chronic disease of the spinal cord, such as tabes dorsalis, which perhaps up to that time had not produced symptoms attracting notice.

From the above illustrations we see that the development of acute symptoms in the course of latent diseases is by no means uncommon, but the subject matter that I wish to bring before you more especially is the occurrence of latent diseases without obvious symptoms. From this point of view these latent diseases may be divided into two great groups—the first consisting of those instances where latent diseases occur as complications of other and obvious maladies, and the complication produces either no obvious symptoms, or else the symptoms produced by it are erroneously interpreted as dependent on the initial malady. The second group, which is equally, if not more, important, consists of the instances where the latent disease is not detected until complications have developed, the original latent malady being overlooked, either owing to the complete absence of symptoms or in some instances owing to their equivocal character.

Both of these groups are of great practical importance from the clinical point of view and although the immediate object of this address deals rather with the second group it will be convenient to consider shortly some characteristic illustrations of latent diseases occurring as complications of other maladies and producing no obvious symptoms. As an example of this the renal sequelæ occurring in diseases of the bladder and of other pelvic organs may be quoted. Both the mechanical and the septic complications affecting the kidneys in bladder and pelvic disease may be readily overlooked. A very considerable degree of hydronephrosis, even bilateral in its distribution, may be present as a result of obstruction without producing any more marked effects than a diminution in the specific gravity of the urine and an increase in the amount of urine passed. Pyelonephritis may also exist with little other change in the urine than the presence of a trace of albumin, together with the excretion of an increased quantity of urine of low specific gravity and slight evening pyrexia. The existence of either of these renal complications is a factor which has a profound influence on the prognosis of the underlying disease and also on the likelihood of the success or otherwise of even very simple operative procedures. These renal complications will serve as an illustration of a truly latent disease, often reaching a high degree of development without the production of any symptoms sufficiently important to attract the patient's notice.

Another malady of a widely different character, but which may be truly latent, is the well-known occurrence of latent cerebral abscess as a complication of ear disease. In such cases headache, vomiting, and other characteristic features of the malady may be completely absent and such patients may die with great suddenness from rupture of the abscess into the cerebral ventricles. This fatal event is not uncommon where there has been little reason for thinking that the patient was suffering from any grave disease. In many, but probably not in all, such cases the error of overlooking the existence of cerebral abscess may be avoided by a careful examination of the optic discs, as it is well known that a considerable degree of neuritis may be present without producing such an impairment of vision as to attract the notice of the patient.

Pericarditis is especially apt to run a latent course when it occurs as a complication of renal disease, especially of Bright's disease. In such instances there is often a further reason for the pericarditis being overlooked owing to the fact that pericarditis is frequently not the only complication present; uræmia in one or other of its many forms may coexist with it. It is exceptional for the latent pericarditis of renal disease to be unaccompanied by physical signs, although the characteristic pain and many of the other usual symptoms of pericarditis may be absent. A careful physical examination will usually reveal the existence of the complication, especially if we bear in mind the great frequency with which it occurs both as a complication of renal disease and as an accompaniment of uræmia, and hence examine our patients thoroughly.

Many other instances might be quoted of the occurrence of serious and sometimes fatal complications of gross organic disease with more or less complete absence of symptoms, but the above will suffice for our purpose.

In other cases serious complications occur which are overlooked owing to the symptoms produced being attributed not to the complication but to the underlying malady. One of the most important and striking examples of this is afforded by the occurrence of so-called latent pleural effusion in cases of valvular disease of the heart and more especially, perhaps, in cases of aortic regurgitation. The latent pleural effusion of this type may develop to a considerable extent without producing any pain or other symptom attracting notice to the pleural cavity. In fact, in most cases no other effect than a gradually increasing dyspnœa is to be observed, and this dyspnœa, in the absence of a complete examination of the chest, may very readily be attributed to the cardiac malady and to cardiac causes when it is of mechanical and respiratory origin. Strychnia has often been prescribed in large doses for the relief of the dyspnœa of valvular disease where the proper remedy was paracentesis thoracis. Another reason why such latent pleural effusion is extraordinarily liable to be overlooked depends on the fact that it not infrequently occurs without the occurrence of marked general dropsy. Too much stress cannot really be laid on the important point in all cases of cardiac dyspnœa of a careful examination being made to determine the presence or absence of latent pleural effusion.

Although latent diseases are often overlooked when they occur as complications of declared maladies, yet the second group of cases described above where the disease is latent *ab initio* is by far the more important from a clinical point of view, as many of our most serious mistakes in diagnosis and prognosis are made by overlooking such maladies. In some instances, no doubt, it is impossible not only to diagnose but even to suspect the existence of a grave organic lesion and such cases are only revealed in the post-mortem room. Not infrequently, however, a diagnosis can be made, or, at any rate, a suspicion entertained, that the disease which is apparently acute is really an acute complication, development, or sudden manifestation of a previously existent latent malady. Instances of this kind can be quoted from almost all varieties of disease, but I propose in the remaining time only to deal with some of the more striking illustrations.

Amongst acute specific maladies typhoid fever is the one that affords the most striking as well as the most frequent illustration of this tendency to run a latent course. All clinicians are aware of cases of apparently sudden perforative peritonitis which are really cases of perforation of a typhoid ulcer where the typhoid fever has run a latent course or, at any rate, has produced quite trivial symptoms. Many such a case is erroneously diagnosed as a case of perforative peritonitis due to other causes. It is of great importance in all cases of apparent perforative peritonitis to cross-examine the patient carefully in order to determine whether symptoms of previous illness are really absent or, as is more often the case, whether they have been present, but of an equivocal and slight character. Whether rheumatic fever ever runs a truly latent course is perhaps open to question, but many cases are seen where extensive cardiac lesions are present and where no definite history can be obtained of any previous marked affection of the joints. Somewhat similar phenomena are seen also in the cases of the complications of diphtheria and of scarlet fever. Typical diphtheritic paralysis, often of a high degree of severity, is familiar to everyone as occurring occasionally where no definite history of a throat illness can be obtained. In the case of nephritis and Bright's disease the possibility of a more or less latent attack of scarlet fever is often a consideration that is forced on us. It is, however, in the case of chronic rather than in that of acute diseases that the most striking examples of the existence of latent diseases are afforded to us. The morbid processes which lie at the root of angina pectoris very commonly advance to a very high degree without the production of any symptoms and it is well known that the first attack of angina pectoris may be fatal. Fatty degeneration of the heart, especially in its more severe forms, is also a malady which may run a strictly latent course and the same is undoubtedly true of aneurysms limited to the first part of the arch and sometimes in others involving the thoracic aorta. I have seen an instance of a large aneurysm of the thoracic aorta which produced no symptoms of any kind until it had eroded the bodies of four dorsal vertebræ and then caused paraplegia. The fact that fatty degeneration of the heart is peculiarly apt to run a latent course is a matter of considerable practical importance owing to the great difficulty hitherto experienced not only in diagnosing the disease but also in excluding it. Latent fatty heart may

and does occur as an accompaniment or complication of many diseases as well as being the sole morbid process present and it may lead to sudden death in patients who are apparently not very seriously ill, as in some forms of alcoholic neuritis and also in some cases of hepatic cirrhosis. I have known a patient with hepatic cirrhosis to die suddenly from fatty heart where there was no evidence of the patient being seriously ill and where cardiac symptoms were conspicuously absent. The same fatality may occur in cases of alcoholic neuritis, so that in both these maladies the possibility of the presence of latent fatty heart must be considered. Some of the most serious and fatal of cardiac diseases are liable to run a latent course and this is a fact of capital importance in the diagnosis of these maladies.

Amongst pulmonary affections latent maladies are not so frequent; the one that is most liable to occur and to be overlooked is, I think, pleural effusion. Latent pleural effusion is, nevertheless, a malady that is very generally recognised and one that by some authorities is supposed to be more intimately associated with pulmonary tuberculosis than other varieties of pleurisy. It is also well known that the effects eventually produced by a latent pleural effusion are sometimes those that may first attract notice to underlying malignant disease of the lung or pleura. Phthisis is not very apt to run a truly latent course, although we are all familiar with instances where the most extensive phthisical changes may have occurred without the presence of very marked and obvious symptoms. It is usual, however, in such cases for symptoms to have been present, but either to have been overlooked or erroneously attributed to some other non-tuberculous affection.

It is remarkable that peritonitis may not only exist as a latent disease but that the most severe and violent forms of peritonitis may sometimes be present without producing any marked symptoms. I have known of a patient with perforated duodenal ulcer who was suffering from general advanced peritonitis who repudiated any idea of being ill and was walking about within a few hours of his death. The sole reason that led him to seek advice was some difficulty in passing urine, yet there was general peritonitis and the abdomen contained a large quantity of offensive pus. In the cases where peritonitis runs a latent course the form that is most likely to be present is the purulent one, and in the instance just quoted the peritonitis was not only general but the abdomen contained a very large quantity of free pus. It has been suggested by some writers that in cases of suppurative peritonitis the inflammatory process is so violent that the nerve endings are rapidly destroyed or their efficiency impaired and hence the painlessness of the disease.

One of the commonest diseases to run a latent course is gastric ulcer and even if, strictly speaking, symptoms are not completely absent, yet in a large proportion of cases they are very equivocal and may not lead to the suspicion being entertained of the presence of a gastric ulcer. The tendency of gastric ulcer to run a latent course or, at any rate, one where the classical symptoms attributed to ulcer are absent is of great practical importance for many reasons. In the first place, many of these ulcers perforate and although in a certain proportion of cases the perforation is, so to say, a local one, yet it is well known that perforation of a gastric or duodenal ulcer is one of the commonest causes of general diffuse peritonitis. It is a matter of considerable clinical importance that the absence of any marked gastric symptoms is really of little value in excluding gastric ulcer as a cause of general peritonitis. Another reason for bearing in mind the possibility of the presence of gastric ulcer is the fact that it is so often associated with chlorosis, so that it is difficult to exclude with certainty in any given case of chlorosis the possibility of the presence of gastric ulcer. Another reason for always bearing in mind in gastric affections the possibility of an ulcer being present without causing its characteristic symptoms depends on the fact that otherwise an erroneous diagnosis of gastric dilatation may be made. I have known of an instance where laparotomy was performed with the idea of treating gastric dilatation, where not only was an ulcer present which had not been suspected, but where this ulcer was of such a size as to involve nearly the whole of the posterior wall of the stomach.

Malignant disease of the stomach, the colon, and the rectum may not only exist without producing any marked symptoms but may reach a very high degree of development without causing even any impairment of the general health. It is true that this is exceptional, but its occurrence is sufficiently frequent for the fact to be borne in mind. Some years ago I saw a case of a man, aged 30 years, who came under observation for a slight enlargement of the umbilicus which was clearly of a malignant nature He presented no symptoms or physical signs of abdominal disease, but a few days afterwards succumbed to an attack of profuse hæmatemesis and a large primary carcinoma was present in the stomach. In this case the absence of symptoms was so complete that the patient refused to believe that there was anything seriously amiss with him and persisted in thinking that the induration of the umbilicus was dependent upon the irritation produced by a button. Profuse hæmorrhage may also be the first symptom produced by malignant disease of the rectum which may have reached a high degree of development without producing any local discomfort or any symptoms to attract notice. This is perhaps more especially the case where the disease occurs in elderly vigorous patients.

Many hepatic diseases are liable to run a latent course and in tropical countries this is not uncommonly the case with hepatic abscess. In this country, however, this is not a matter of any very great practical importance. Gall-stones probably produce no symptoms in the great majority of cases of their occurrence, and this is a point which must be always borne in mind in the diagnosis of the possible causes of jaundice. Although the mere presence of gall-stones does not in the majority of cases lead to symptoms, these are usually produced when there is any attempt at the passage of the stones. It is well known, however, that large stones may ulcerate through the gall-bladder into the intestine without the production of any symptoms indicative of obstruction of the bile-ducts. Hence in cases of intestinal obstruction from impaction of gall-stones a history of jaundice is not to be expected. Perhaps the most striking, and certainly the most common, instance of latent disease of the liver is afforded by cirrhosis in its many forms and especially perhaps by alcoholic or atrophic cirrhosis. It is well known that symptoms are not produced in this malady until the disease has advanced to a very great extent and, in fact, they ought to be called terminal symptoms owing to the period of the disease at which they are present. This is especially true of ascites and to a less extent of hæmatemesis, but it must be remembered that a high degree of hepatic cirrhosis may exist for many years and death may occur as an indirect result of some intercurrent illness. It is from this point of view that the recognition of the latent course that hepatic cirrhosis is apt to run is especially important. A patient may suffer from hepatic cirrhosis with no apparent ill effects for an unknown but prolonged period and then as the sequel of an attack of some intercurrent disease, such as influenza or typhoid fever (to quote instances which have fallen under my own observation), a characteristic toxic group of symptoms dependent on the destruction of the liver may develop and rapidly prove fatal. In some instances this does not occur during the height of the intercurrent affection but subsequently to it and during convalescence.

Another remarkable group of cases of rather uncertain nature is afforded by patients who come under observation suffering from acute general peritonitis apparently dependent on perforation, but where no perforation is found post mortem but a high degree of atrophic cirrhosis. Two such instances have fallen under my observation and both in children where there was apparently no symptom of ill-health prior to the sudden onset of the general peritonitis, and the violence of this in both cases suggested the presence of appendicitis or some other form of perforative peritonitis. No perforations were found at the post-mortem examinations, but on the other hand there was extensive hepatic cirrhosis together with acute general suppurative peritonitis.

Amongst cerebral affections, tumor cerebri, meningitis, and aneurysm of the large cerebral vessels all afford illustration of the existence of very grave organic disease without the production of symptoms. Aneurysm of the cerebral vessels is extraordinarily liable to produce no symptoms for a more or less prolonged period, in some instances not until the fatal rupture, and in other cases the symptoms produced are so equivocal as to render recognition of the underlying disease impossible. I have known of a case of aneurysm of the basilar artery where the initial symptom was stiff neck and after the persistence of this for a few days the patient developed irregularity of pulse and retention of urine to be followed very shortly by the coma

dependent on the rupture of the aneurysm. The existence of tumor cerebri without the production of obvious symptoms is so well known that everyone appreciates the difficulty of excluding with certainty the presence of tumour.

In the case of meningitis we meet with a remarkable instance of the existence of a grave and fatal disease without the production in some instances of the characteristic features of the malady. This absence of symptoms may occur not only in the acute disease but also in the chronic form, or, to be more accurate, in the condition which may remain as a result of a former attack of acute meningitis. Instances are known of diffuse suppurative meningitis where the onset of symptoms ultimately has been so sudden as to suggest the occurrence of a vascular lesion or even such a condition as meningeal hæmorrhage and where, as a result either of operative interference or post-mortem observation, it is certain that the condition must have existed for a considerable time before the occurrence of the symptoms. Every physician is familiar with cases of meningitis where the absence of the characteristic features of the disease has led to an erroneous diagnosis of hysteria or even malingering. There is a rare form of meningitis, of which three instances have been seen by me, where the patient may recover from an acute illness characterised by headache, fever, retraction of the head, with vomiting and other symptoms suggesting the presence of meningitis. Nothwithstanding their recovery and the more or less complete absence of symptoms such patients die suddenly after a variable interval of apparent recovery of health. In one instance such a patient presented occasional vomiting but otherwise seemed perfectly well and was up and about. The post-mortem examinations in all these three cases showed thickening and opacity of the membranes at the base and distension of the fourth ventricle. None of them were really diagnosed, although in one the condition was suspected on account of the history of the acute illness and owing to the presence of some optic neuritis. These cases illustrate the manner in which the effects produced by the acute meningitis may lead to a condition that is rapidly fatal although not productive of marked symptoms.

Many diseases of the spinal cord, meninges, and even of the spinal column may not only exist but may reach a very high degree of development without the production of any characteristic symptoms. Thus a perforating ulcer or Charcot's joint may be the first evidence of the existence of such a chronic disease as tabes or syringomyelus, and fracture of the spine as the result of a sudden movement may be the first unequivocal evidence of the existence of sarcoma or other malignant disease of the bones. Again, the apparently sudden formation of a large psoas abscess may be the first indication of spinal caries, and in this malady it is not uncommon for paraplegia, or rather weakness of the legs, to be an early symptom of primary mischief in the bones.

Diseases of the kidneys afford perhaps the most striking instances of the existence of grave organic lesions without the presence necessarily of marked and obvious symptoms. We have already seen that diseases of these organs may occur in an insidious manner as consequences or sequels of pelvic diseases without affording sufficient symptoms to attract attention. Kidney diseases afford perhaps also the most frequent examples of the diseases grouped under the second heading of this address—viz., those where the original malady is overlooked until the occurrence of complications. Almost all the common affections of the kidney may exist in a latent form and advance to a high degree without producing marked symptoms. This is not only seen in such affections as hydronephrosis and pyelonephritis, but also in cystic disease, and most important of all in granular kidney and in certain forms of Bright's disease. The recognition of what may for shortness be called latent Bright's disease and latent granular kidney is of great practical importance owing to the beneficial effects that may be obtained as a result of the proper treatment of these diseases.

The occurrence of bilateral cystic disease without the development of marked symptoms is more a matter of theoretical interest than of great practical importance inasmuch as so little can be done for the disease when recognised. It is not uncommon for patients to come under observation on account of vague abdominal symptoms or for such a symptom as gradually increasing constipation and then on examination of the abdomen for the presence of cystic disease of the kidneys to be revealed, and in such instances the large size of the renal tumours indicates that the malady must have existed for a very considerable time. In other instances, as is well known, extensive and bilateral cystic disease produces no symptoms of any kind and is discovered, so to say, accidentally where not suspected in the post-mortem room. Uræmia in one of its many forms, and even in its most acute form, may be the first intimation of the existence of cystic disease of the kidneys. The affection usually described as granular kidney is also one that is constantly coming under our observation in a more or less latent form and this is the case both where the renal affection is part and parcel of a widespread arterial degeneration and also in other instances where the main incidence of the pathological process is on the kidney itself. No doubt in the large majority of both classes of these patients careful cross-examination may elicit some symptoms of ill-health prior to the development of the complication that compels the patient to seek advice, but in a great many cases such symptoms are elicited with difficulty and only after the development of the complication. It is not unusual for these symptoms to be of a vague character, such as a failure in the general health and strength or possibly some impairment of the general nutrition, symptoms which may be due to a great variety of causes and which do not at first sight suggest a possible renal origin. A common complication that leads to the recognition of the underlying malady is cerebral hæmorrhage, but in these cases the cerebral hæmorrhage is usually profuse and often fatal, and therefore the recognition of the underlying cause is of no avail.

In another and perhaps more striking group of cases no symptoms of sufficient importance to attract attention on the part of the patient may occur until the onset of epileptiform seizures or some other manifestations of uræmia. Numerous instances have occurred where patients have died from acute uræmia after an illness lasting in some cases a few hours and in others only a few days. It is always worth while to examine carefully for the presence of a granular kidney in cases of sudden epileptiform seizures occurring for the first time in a patient of the age liable to granular kidney. I would especially draw your attention to the fact that one of the most fatal forms of chronic Bright's disease not uncommonly runs what is to all intents and purposes a latent course, no symptoms being produced until the terminal or fatal illness which may last but a few days. This form of Bright's disease is most commonly seen in young adults and is characterised post mortem by the presence of small white or mottled kidneys with a rough granular surface. These patients in my experience do not present, as a rule, any history of a definite attack of acute Bright's disease characterised by dropsy and they are often quite unable to give any information by means of which the onset of the disease can be ascertained, although doubtless in some instances it is a sequel of a former attack of acute Bright's disease, but I do not think that it is so in all for the reason just mentioned. A very considerable proportion of these cases do not come under observation until a fatal complication is present and this complication is especially likely to be uræmia. In some instances one of the so-called uræmic skin eruptions has been the first symptom that has attracted notice. In others the first symptom has been failure of vision owing to the development of retinal hæmorrhages and marked optic neuritis, and in others some inflammatory complication has supervened, more especially pericarditis. But uræmia in all its forms is unquestionably the most important and, I think, the most common complication. Thus a patient may be seen suffering from what is apparently an epileptiform seizure and perhaps presenting no very marked signs of ill-health, the onset of the fits having been quite sudden. Yet on examination the presence of marked arterial changes and albuminuric retinitis and the secretion of a copious dilute urine containing a large quantity of albumin all point to the conclusion that the disease is not only latent but has really existed for some considerable time, often for years. In the great majority of these patients it would not be correct to state that all symptoms are absent; there is often some progressive failure of health and strength, but even this in some cases is not marked and I have known the disease to be fatal from uræmic complications occurring at a time when the general aspect of the patient would by no means suggest the possibility of the presence of a grave renal disease. Thus, a young man, 25 years of age, presenting no history of a former acute illness, came under observation on account of neurasthenic

symptoms associated with, and apparently due to, business worries. A few days afterwards a papular eruption appeared all over the skin of the trunk and examination of the urine showed that it was of low specific gravity, abundant in quantity, and contained a large amount of albumin, notwithstanding the fact that his general nutrition was good and there were no obvious signs of anæmia. In less than a week acute uræmia developed with marked dyspnœa which was fatal in 48 hours. This form of Bright's disease may very readily be overlooked unless the urine be examined in a routine fashion. The state of the optic discs will also often afford evidence of the existence of the malady, as it is probable that where it has existed for any length of time changes both in the retina and in the retinal vessels can be detected. One of the reasons leading to the malady being overlooked is perhaps the fact that dropsy is not a marked feature and may even be entirely absent and, according to my experience, this is generally the case. The state of the heart and of the vessels will often raise a suspicion of the presence of this form of chronic Bright's disease, but pronounced arterial changes to be detected by the finger are not always present and cardiac hypertrophy may unquestionably sometimes be absent. The other form of chronic Bright's disease, the so-called large white kidney, is not so apt to run a latent course and owing to the anæmia produced and the frequency of dropsy the recognition of the malady is easy.

In conclusion, the great lesson that is to be learnt from the occurrence of all these numerous varieties of latent disease is the one that most of them can be detected or at any rate suspected as the result of a complete physical examination. In other words, it is the symptoms that are absent, not the physical signs. The only precaution that it is necessary to take is to examine as far as possible all the organs of the body and not to be contented with a physical examination restricted to those parts to which the patients draw attention. Thus many a patient complaining of heart symptoms perhaps dependent on organic disease of the heart is really suffering from renal disease with secondary heart difficulties; the real cause of the disease would be completely overlooked if the examination were confined to the organ to which the patient's symptoms are referred.

# The Goulstonian Lectures

ON

# THEORIES OF IMMUNITY AND THEIR CLINICAL APPLICATION.

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## LECTURE III.[1]

*Delivered on March 24th.*

### ACTIONS, OTHER THAN ANTITOXIC AND BACTERICIDAL, OF CURATIVE SERA.

MR. PRESIDENT AND GENTLEMEN,—We have seen that the introduction of the serum of one animal into the tissues of another, especially of a different species, leads to the formation of antidotes to that particular kind of serum. In some instances, indeed, the serum of one animal may be toxic for another. The introduction, therefore, of a quantity of horse's serum into the human body may not be—indeed, is not—always a matter of indifference. We know that in the case of diphtheria antitoxin a certain percentage of cases have eruptions, pains of the joints, &c., which are probably to be assigned to the alien serum. Perhaps the juvenile serum is of a more primitive nature than the adult, since children are said to stand prophylactic injections of diphtheria antitoxin better than those already grown up. But in the case of antitoxic sera these side-issues do not interfere with their efficiency. Nor will any harm arise from a dose beyond what is necessary for mere neutralisation of the toxin; on the contrary, the excess may dissociate a union of toxin and cell already completed. There is not at present any evidence to show that the toxin formed by the bacillus diphtheriæ in the human body is not efficiently neutralised by the antitoxin formed in the horse's tissues.

With bactericidal sera the case is rather different, because for their efficient action both amboceptor and complement are required. It is obvious that efficiency will be attained only if both components are present in sufficient quantity, but it is the number of amboceptors resulting from the process of immunisation which will determine to a large extent the potency of the bactericidal serum, since they are present in normal blood only in small quantity. The complement, as we know, is much more unstable and may, on keeping of the bactericidal serum, either disappear or be converted into complementoid. On the other hand, complement is present in quantity and variety in normal serum, so that the introduction of amboceptors alone in the bactericidal serum will often suffice for its efficient action. But the quantitative relations of amboceptor and complement are of extreme importance. It has been known for some time that a medium dose of a bactericidal serum may save an animal from a lethal infection whilst a larger or smaller quantity fails to do so. The explanation seems to be as follows: If the two components are present in corresponding quantities the amboceptor will unite with the bacterium by its haptophore group, the complement will then fit into the complementophile group of the amboceptor and the bacterium will be destroyed. But with an excess of amboceptors an alteration of equilibrium takes place and the affinity of the complementophile group of the engaged amboceptor for the complement may be altered. If increased there is no harm done, because the complements will unite with the already engaged—viz., effective—amboceptors. If the affinity remains equal the complements will be equally distributed and only half will take part in the bactericidal action and the efficiency of the serum will be correspondingly reduced. If the affinity is diminished the result will be even more unfavourable, for then the complements will become first attached to all the unengaged amboceptors and only the remainder will be available for effective bactericidal action. Consequently in certain circumstances too much bactericidal serum may do more harm than good. Even if sufficient complement be introduced with the bactericidal serum it may lead to the formation of anti-complement and so, although a suitable complement as such will usually be present in the immune serum used for curative purposes, it may become engaged with the anti-complement and so be rendered useless. On the other hand, in active immunisation, although so far as we know there is no increased production of complement, that already existing in the organism will fit and activate the amboceptors formed during the immunising process.

To give a concrete example. Pigeons infected with vibrio Metchnikovi cannot be saved by the injection of the inactivated (heated) serum of rabbits immunised against the vibrio, unless some fresh rabbit's serum (containing complement) be added. The pigeon's blood possesses no suitable complement for the rabbit's amboceptors. On the other hand, by active immunisation of pigeons with dead culture of vibrio Metchnikovi they are soon rendered able to stand a multiple of the lethal dose, so that their blood must contain a suitable complement for their own amboceptors. For these reasons the treatment of enterica by weak immunisation with dead culture (Petruschky) may sometimes be more effectual, even after infection, than a bactericidal serum, or, perhaps, in spite of apparent theoretical objections, a combination of the two modes of treatment may be useful.

In his Croonian lecture (1900) Ehrlich says: "From this it appears that in the therapeutic application of anti bacterial sera to man therapeutical success is only to be attained if we use either a bacteriolysin with a complement which is stable in man, or at least a bacteriolysin the amboceptor of which finds in human serum an appropriate complement. The latter condition will be the more readily fulfilled the nearer the species employed in the immunisation process is to man. Perhaps the non-success which as yet has attended the employment of typhoid and cholera serum will be converted

[1] Lectures I. and II. were published in THE LANCET of March 21st (p. 775) and March 28th (p. 853), 1903, respectively.

into the contrary if the serum be derived from apes and not from species so distantly removed from man as the horse, goat, or dog." But Chantemesse claims to have produced such a serum from the horse and his figures are certainly striking. It may be that the success is due to the fact that his serum possesses both bactericidal and antitoxic properties.

Since the complement contents and quality of the blood can be tested against a bactericidal serum *in vitro* it is possible to ascertain in advance whether any bactericidal serum is likely to be of use or not for any individual case. It may even be possible artificially to induce the formation of deficient amboceptors in individuals in whom we recognise a diathetic deficiency—e.g., in persons disposed to tubercle—and so make good the adage of prevention being better than cure.

What are the practical applications to be learnt from these experimental investigations regarding toxins and antitoxins?

In the first place it is obvious that any antitoxic serum which we possess should be applied as soon as possible after the recognition of the illness. Since most of the evidence goes to show that the mere injection of an antitoxic serum does not appreciably stimulate the formation of antitoxins in the body—since, moreover, any definite quantity of antitoxin will neutralise only a definite quantity of toxin—the object should be to inject before much toxin is formed. We know that the toxins act directly on certain cells and may have a greater avidity for them than for the corresponding receptors of the antitoxin. It may even be impossible to break the bond of toxin with cell or possibly only with a large excess of antitoxin; this is another reason for its early administration.

The experimental investigations regarding tetanus and its antitoxin also give a clue as to the mode of application of antitoxin. In this instance we know that the toxin especially attacks the nerve cells of the brain and more especially, it would appear, those of the motor area. Consequently, it appears advisable to apply the antitoxin somewhere in proximity—viz., subdurally or intra-cerebrally—so that it may fix the toxin before it is bound or before it is indissociably bound or has destroyed the nerve cell. There is to my mind much more hope for cure in man in the particular case of tetanus, because the toxin is formed but slowly at the site of inoculation and not introduced comparatively rapidly into the circulation as in experiments with animals.

Very little antidote is formed in certain cases in man, even when the attack is mild or successfully resisted—e.g., in septicæmia. For this reason the administration of the serum should be continued for some time after apparent recovery until its action is quite complete. Since the antidotes are often not destroyed by digestion it should be remembered that a curative serum may often be given with good result by the mouth. Remembering also the ease with which the complement becomes inactive it is obvious that all curative sera should be used as fresh as possible. Antivenomous serum undergoes a comparatively rapid and great deterioration in the climate of India.

### INCUBATION.

By the incubation period of a disease we usually understand the period elapsing between the exposure to infection and the appearance of symptoms. We know that in different individuals this period will vary. The theory of immunity offers a rational explanation. We shall see how individuals differ both as regards the mediators and also the complements present in the blood. It is only to be anticipated that this variation, representing as it does a variable power of resistance to the bacterial invasion, will cause differences in the time taken until such reserve shall have been used up—that is, until infection is in full swing. Moreover, since the infective agents may also vary both in strength and in number an additional factor for causing marginal differences is introduced.

But the incubation period includes a number of processes which are not expressed or explained in such a diagrammatic description. With the more slowly acting poisons the incubation period cannot be reduced below certain limits, however great the dose administered. To take a concrete analogy. Supposing we place a little gunpowder in a candlestick with a candle above it. On lighting the candle, however small it may be, some time will elapse until the explosion occurs. The actual incubation period will vary not only with the size of the candle but also with the material, the external surroundings, &c., and the candle may be extinguished before it has burnt far enough to ignite the gunpowder. According to Ehrlich's theory—but this explanation is not admitted by his opponents—the incubation period results from the separate action of the two groups in the toxin. The haptophore group becomes gradually attached and not until this process is complete can the toxophore group act. The following experiments support this supposition. Frogs injected with tetanotoxin and kept at 8° C. do not develop tetanus, but they do if subsequently exposed to a temperature of 38° C. They can be saved by the injection of antitoxin before the temperature is raised to 38° C., but the longer the interval between the two injections the larger the dose of antitoxin necessary. On the other hand, if a "warm frog" be injected with tetanus toxin and after 24 hours, but before there are any symptoms of tetanus, be cooled, no symptoms develop. But if now antitoxin be injected and the frog again be made warm, tetanus nevertheless develops and cannot be arrested by any dose, however large, of antitoxin. The union of toxin to nerve cell occurs so rapidly and completely in the warm that subsequent disruption by antitoxin is no longer possible. All this is quite in accordance with the observations that toxin rapidly disappears from the blood and becomes united with the cell, and in proportion as they become united so much more antitoxin is required to dissociate them; and if once the toxophore group has come into action the antitoxin is powerless. There is experimental proof to show that such a union can be undone and it can be explained only on the supposition of mass action and greater avidity of the antitoxin.

It has been objected by some that no proof is afforded by these experiments of a separate toxophore group in the toxin molecule. The objection is valid, but there is also nothing in these observations inconsistent with such a supposition, far less anything to disprove it.

### EFFECTS OF PROTECTIVE INOCULATION AND INFECTION ON IMMUNITY.

It might have been supposed that an attack of a disease would be the most effectual way of conferring immunity. Within limits this supposition is probably correct. In smallpox we know it to be so and if the causa morbi be at all analogous in scarlet fever, measles, &c., it is very likely to be the same with these diseases. But in those infections of which we know the micro-organism it happens that the individual may survive an infection and yet have no antitoxin in his blood. Both man and guinea-pig recovering from tetanus have generally no antitoxin in their circulation. The attack on the cells is so severe that only a sufficient quantity of side-chains is formed and no excess. A mild attack will confer more immunity than a severe one. Consequently for protection against such diseases a process of slow immunisation is preferable. In the case of typhoid fever it would appear that various strains of the bacillus should be used; and since the immunity conferred does not last long revaccination at comparatively short intervals is advisable. This procedure is far more effective than any attempt to confer passive immunity by the injection of an immune serum, for it has been shown that the bactericidal antidotes are different and special for different animals. Thus rabbits injected with goats' cholera-immune serum form anti-antidotes for goats only, not for other animals. This affords further proof that the immune serum merely contains an excess of normal mediators and not new ones, also that mediators for any bacterial species exist separately. The introduction of the hetero-immune serum thus leading to the formation of anti-antidotes explains the short duration of passive immunity, for the amboceptors are thus neutralised and rendered useless. On the other hand, the long duration of active immunity is accounted for by the stimulated production of mediators already naturally present to which, of course, no antidote will be formed. The fact that several tissues may take part in the process must be always kept in mind. Viewed in this way, the treatment of tuberculosis by injections of tuberculin is perfectly logical. One naturally feels inclined to argue that since the toxin is already being formed in the consumptive the introduction of more is likely to do harm rather than good. But the autochthonous toxin is formed at, and its action largely limited to an area of cells which are obviously too weak to resist, whereas the other tissues may by extraneous toxin be stimulated to produce, and do produce, suitable antidotes.' In my own opinion and experience the tuberculin cure has been unfairly discredited and would form

a most valuable part of sanatorium treatment. The latter by itself can at most induce a general resistance, possibly by securing the occupation of the nutrient receptors of the cells by nutrient molecules alone. It cannot produce any specific improvement (as the subsequent tendency to relapse shows) of the diathetic deficiency in special mediators antagonistic to infection by the tubercle bacillus. This is effected by tuberculin.

### RELAPSES AND REINFECTIONS.

At first sight it might seem that the phenomenon of relapse ought not to occur on Ehrlich's theory. The fact of recovery should indicate the formation of sufficient excess of amboceptors to cope with the infection. But a little further reflection will show that several reasons may be assigned in explanation of this phenomenon.

To begin with, the organism may have been so exhausted by the disease that no new adequate reproduction of amboceptors takes place. The tissue cells no longer respond to the stimulus and the toxin or bacterium can attack the specific, most sensitive cell. Thus, a horse highly immunised in the sense of having much antitoxin in its blood may yet succumb to a fresh injection of toxin by the exhaustion of its tissue cells which now permit the toxin to proceed direct to, and to poison, the nerve cells. For in an actively immunised animal the toxin has greater affinity to the body cells than to the antitoxin, whilst the reverse is the case with passively immunised animals. On the other hand, a total loss of receptors should also lead theoretically to immunity, and experimental corroboration of this hypothesis is forthcoming in the fact that such immunised horses may stand large doses of toxin but yield no antitoxin. In the absence of receptors there is no toxic action, the formation of antitoxin not being necessary. The receptors for other toxins are not lost at the same time; such an animal can be, and is, used for the preparation of another antitoxin.

But relapses may also be explained in another way. The evidence regarding agglutinins shows that even in the same species there are individual differences in the various strains of bacillus typhi abdominalis, $\alpha$, $\beta$, $\gamma$, &c., so that while the antidote may be formed for one strain ($\alpha$) it need not be for another ($\beta$) which then in its turn causes an exacerbation of the disease. In all probability some of the amboceptors thrown off to inhibit ($\alpha$) will fit some of the receptors of ($\beta$) so that the relapse will be less severe than the original attack. We know as a matter of experience that relapses are not often fatal—at any rate, in enterica.

The same line of argument will hold good for reinfections. It is then merely a question of time. The suitable amboceptors may have been already all excreted since the former attack, but it may also be that reinfection or a second attack may be produced by a bacillus of a slightly different strain.

### PREDISPOSITION.

By this term we understand an increased liability beyond the average of any individual to be attacked by a given or any disease. The existence of this tendency has long been recognised by clinicians, but surrounded by them rather with an air of mystery—at any rate, no material explanation was forthcoming. For some time, on the other hand, bacteriologists were inclined to deny the existence of such a factor, and this chiefly in Germany, the home of bacteriology. The reproach is no longer applicable and it is to a German bacteriologist that we owe a rational explanation of this tendency.

When we speak of the thick-necked, red-faced, pig-eyed individual as being an apoplectic subject or as predisposed to cerebral hæmorrhage we recognise certain mechanical features of his anatomy which lead to producing certain physiological or pathological results especially favourable to cerebral apoplexy. There is probably a similar but less definite line of thought in saying that "the strumous disposition ..... is indicated by light or red hair, grey or blue eyes with large and sluggish pupils and long silky lashes, a fair transparent brilliancy of skin and rosy cheeks," or "in persons of dark muddy complexion and harsh skin in whom the mental and body energies are more sluggish and dull." But description is not explanation; diathesis is not a reason.

Does Ehrlich's theory afford any explanation? We have only to suppose that there is a paucity of production of those mediators especially capable of dealing with the tubercle bacillus and its products in individuals to whom Sir Thomas Watson's graphic description applies. "As practising physicians we have to deal with humanity, that is with individual human units, and the latter are not so many ninepins turned off a lathe and out of one block" (Dyce Duckworth). Is there any experimental foundation for assuming that individual differences of such a nature exist in the same species? The experiments of Ehrlich and others show not only that such differences exist but that peculiar properties of the blood may be inherited. Thus, it was found that if the serum of goat A were injected into goat B, B's serum would hæmolyse A's xanthocytes but not C's or D's, while it might act on E's. Here we have clear evidence of individual similarities and differences in the same race. Experiments with the blood of man by Shattock, by myself, and by others have revealed similar individual differences. Moreover, Bulloch has shown that hæmolysin may be transmitted from mother to offspring, and if an existing property may be so transmitted the absence of it is even more likely to occur. Hence it seems only natural that predisposition is likely to be hereditary and is to be met by improvement of environment and production of the deficient mediators.

Of course, the facts just detailed are not new, but I believe that before Ehrlich's theory was put forward no satisfactory materialistic explanation existed. Nor does this explanation apply merely to infectious diseases as ordinarily understood. It deals not only with bacterial cells but with somatic cells; and a predisposition to infection by the cancer parasite, if you accept the parasitic theory, or to degeneration and aberrant proliferation, if you favour the developmental theory, is equally explicable on Ehrlich's suggestion.

Such predisposition can also be acquired, but it then shades off into the conditions to be considered under the heading of susceptibility.

### SUSCEPTIBILITY.

Susceptibility is very nearly allied to predisposition; it may perhaps be defined as acquired predisposition. It may be due theoretically to various causes: an absence or diminution in quantity of normal circulating mediators, or the receptors for the nutritive groups may, through malnutrition, be left unoccupied and unguarded and consequently attacked by toxic groups, or there may be a diminution of complement. Malnutrition is popularly, and probably correctly, considered to predispose towards infection, even when temporary—viz., at the time when the next meal is due. I am not aware of any direct experimental evidence in support of this hypothesis, but it can be tested experimentally. We know that infants brought up at the breast are less susceptible to disease than infants reared on cow's milk or on artificial foods and it has been shown that the bactericidal power of the blood is deficient in the latter as compared with the former class.

It is to variations in conditions of this kind that we must attribute infections by normal parasites such as bacillus coli (appendicitis) and perhaps also by bacillus typhi abdominalis which Koch considers a normal inhabitant of the human intestine.

There remains a clinically very important form of acquired susceptibility. It is a matter of common knowledge that the period of immunity, if any, after an attack of pneumonia, influenza, or erysipelas is very short and the patient often seems more susceptible to the disease than before. We have seen that the blood acquires but very feeble antitoxic or bactericidal power over the infecting organism; the stimulus to over-production seems to be very slight. Supposing this to be so and the number of receptors reproduced not to exceed that which the cell can retain and to be less than before the susceptibility will be increased.

As illustrating the varying susceptibility in spite of nearness of relationship I might instance the chimpanzee. We know that it spontaneously suffers from ankylostomiasis, filariasis, and trypanosomatosis. Of the first disease I have unfortunately practical experience, having lost at least one chimpanzee from it. The occurrence of the other two diseases has been recorded by Ziemann. I have been able without difficulty to infect the animal with typhoid fever, as these two specimens will demonstrate. One single dose was given by the mouth. The animal was killed 12 days later.

The close relationship of its blood to man has been shown by Friedenthal and by myself. The former showed that the injection of large quantities of his own blood into a chimpanzee was not followed by any hæmoglobinuria, while my own experiments demonstrated—by the injection of rabbits with human and chimpanzee blood respectively—the practical

identity of the precipitins formed in each case. In spite of this close relationship attempts to produce diseases like scarlet fever and measles have failed. It is true that on one occasion after swabbing out the throat with a swab from the throat of a case of scarlet fever an exudative tonsillitis resulted and from the chimpanzee's throat the so called streptococcus scarlatinæ was isolated, but I do not think that the chimpanzee had scarlet fever. Apparently the chimpanzee's cells do not possess receptors for the poison of scarlet fever or measles.

Certain acquired habits are known to predispose towards disease—e.g., alcoholism to phthisis. Have we any material evidence to show in what the predisposition consists? The experiments of Abbott and Bergey have shown that the administration to rabbits of alcohol diminishes the serum complement of the blood, while others have shown that it renders the rabbits more susceptible to infection by pathogenic organisms. In the case of man, diminution in the amount of serum complement in the last stages of disease has been shown on several occasions and affords an explanation of terminal infections.

There may be an underlying current of rationalism in the practice of periodical venesection in times gone by. The abstraction of protective bodies ought in the healthy organism to stimulate their reproduction and their overproduction. In some animals there seems to be a seasonal variation in the bactericidal power of the blood: who knows but this may be so in man too, and that by instinct our forefathers may have fallen on the most appropriate season? The question admits of experimental solution and a comparatively simple investigation would give the answer.

This line of thought suggests another mode of treatment based on Ehrlich's theory. Since infection is not possible in the absence of suitable receptors it might be feasible to devise some means of destroying these particular receptors. The method in our present state of knowledge would not be free from danger, for we might unwittingly destroy also nutritive receptors and do more damage than good to the patient. Perhaps it will form a part of the therapy of the future.

An organ has sometimes to protect itself against the action of a part of itself. We have already seen that bacteria are not digested in the alimentary canal and it is a familiar fact that ascarides can survive the digestive juices and it has recently been shown that the body wall of ascaris contains an anti-enzyme to pepsin. But what is more important and interesting is the fact that the human stomach wall contains an anti-enzyme to its own ferment. It is an obvious deduction to infer that a diminution in quantity of this anti-pepsin may have an etiological relation to gastric ulcer. By the production of an anti-antipeptic serum an experimental verification of this inference would be possible.

## SERUM DIAGNOSIS.

The existence of the agglutinins was one of the earliest results of modern investigations into immunity. They form a valuable means of identifying bacterial species and recognising the degree of relationship between various species, whilst they have also been employed practically as a diagnostic sign in disease.[2] So much has been written and said about them in the past seven years that it is hardly necessary to enter into a detailed description of their characters and production. I may mention, in passing, that the most recent work shows their probable identity with the precipitins but not with the amboceptors, since a serum can be produced, after suitable treatment, by the bacillus pyocyaneus which possesses immunising but not agglutinating properties.

But in the practical application of serum diagnosis various phenomena may occur which must be known and understood in estimating the value of the results. In spite of early warnings, some at once pinned their faith on the supposed infallibility of the test and then, finding that it was unable always to determine an uncertain diagnosis, became unbelievers. The agglutinins, although not identical with the amboceptors, nevertheless go roughly together with them in their rate and conditions of production in ordinary circumstances. Consequently in very severe infections, when all the cells are hard hit and many of them succumb, the agglutinin may either be used up or not formed, so that it is but natural for the reaction to be feeble or absent until the patient is already on the road to recovery. On the other hand, in mild attacks, which may be the result of either milder infections or of greater resistance, the reaction may naturally appear sooner and be stronger. Or, again, its absence may be due to an error in diagnosis. Finally, it may be the result of faulty technique.

The following points are worthy of consideration. Agglutinins may become converted into agglutinoids. These would in this form also unite with the bacilli like the complementoids with the amboceptors, but without producing any specific effect; no agglutination would take place. The bacilli may lose their agglutinability, although retaining the power of uniting with the agglutinin—viz., their agglutinable substance loses its functional atom-group. This group is comparatively unstable, so that unsuitable culture media, &c., may make the bacilli non-agglutinable, although uniting with the agglutinin. If the serum contain both agglutinins and agglutinoids and the latter have the greater affinity for the bacteria, even if present in less quantity, they may inhibit agglutination until the serum is so far diluted as to give the agglutinins a greater chance. This explains an early observation of my own for which I was then quite unable to account—that a higher dilution would sometimes agglutinate when a lower one would not.

The agglutinable substance is partly soluble in NaCl solution, so that an emulsion of bacilli should always be made fresh or the reaction becomes less sensitive.

## PARTIAL AGGLUTININS.

This expression is used to indicate the fact that several agglutinins may exist in a serum and may have slightly different cytophile groups, so that they will react differently as regards intensity with different strains of the same bacillus. Some may even act on nearly allied bacilli. Consequently it is a matter of importance what culture is used for serum diagnosis. It is also important in using an agglutinative serum both for the identification of a bacillus and for a serum diagnosis that the serum should be diluted as much as possible consistent with obvious action, since in this way the misleading action of the less numerous agglutinins is eliminated.

The serum reaction is also likely to be absent in cases of erroneous diagnosis. If bacteria are otherwise nearly allied it is, at any rate, possible that they may produce symptoms having much clinical resemblance. This seems to be so in typho-coloid fever on the other hand. The relationship between the bacteria may be so close that the patient's serum may act on each in comparatively low dilutions and the various strains may be separable only by degrees of dilution. Of course, discretion and reason must be exercised in all these cases, so that serum diagnosis requires not only considerable technical knowledge and skill but also an acquaintance with the clinical features of the case under investigation. It is only a symptom and its value as such in any particular case will vary like the value of any other symptom.

There is a strange gap in our knowledge of etiology regarding those diseases of which one attack produces a very lasting immunity; of small-pox, typhus fever, scarlet fever, measles, and others we do not know the morbific germ. It is a curious coincidence that these diseases happen to be the most infectious. I believe that the discovery of their causes would throw great light on the phenomena of immunity. Even with our present knowledge I think we can assert that they are cases of mixed infection in which streptococci play a part, but only the minor part, as often in tubercle and diphtheria. Streptococcus scarlatinæ seems to occur pretty constantly in the throat and in the blood of scarlet fever patients. In two cases of measles I have found in the heart blood at the necropsy a streptococcus which is always present in the throats of patients suffering from measles. But to my mind it is pretty certain that these are only accessory causes. For we know that immunity to streptococcal infection is short and that second attacks are common. Many people exposed to scarlet fever infection get sore-throats repeatedly but not scarlet fever, and streptococcus scarlatinæ has been isolated from such cases.

The infectious fevers form an attractive theme for theorising and a yet more attractive objective for investigation. Their infectivity does not seem to be all of one kind. Thus yellow fever, an attack of which also confers a long immunity, has until quite recently been regarded as highly

[2] First performed by myself on March 14th, 1896, and first mentioned by Gruber at the Wiesbaden Congress in April, 1896. The first publication, by Widal, was on June 26th, 1896, but he has not consented to give the date on which he performed his first serum diagnosis, so that it is presumably after mine, and after Gruber's utterance.

infectious. Yet the infection is certainly not by contagion; it is transmitted by the mosquito. The pathogenic micro-organism has not yet been found. Can it be that the infectious diseases of temperate climates are transmitted in a similar fashion? It seems possible, but unlikely.

Even so, we are not any nearer either the cause of the disease or the reason for the long immunity. But I believe that the discoverer of the cause will find with it the key to the innermost temple of the Theory of Immunity.

## FURTHER OBSERVATIONS ON THE TREATMENT OF SMALL-POX BY THE SERUM OF IMMUNISED HEIFERS.

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IN 1897 some observations on the treatment of small-pox by the subcutaneous injection of serum obtained from heifers immune to vaccinia were reported.[1] None of the cases were seemingly in any way affected by the treatment and it was suggested in that communication that possibly the administration of larger doses might be attended with more satisfactory results.[2] The presence of small-pox in Glasgow during the past two years has afforded an opportunity for a renewal of these observations and we propose to publish an account of 13 cases in which large doses of serum were administered.

The serum was obtained, through the courtesy of Messrs. Parke, Davis and Co., from the vaccine establishment of that firm in Detroit and it was provided in bottles each containing 16 ounces. It was not concentrated or interfered with in any way except that tricresol had been added at the time of bottling in the proportion of 0·4 per cent. The sterilisation of this serum was apparently very thorough, for some was kept in the City of Glasgow Small-pox Hospital at Belvidere for nine months without showing any evidence of decomposition, as proved by the absence of growth on culture media inoculated with it. The injections were administered by means of a metal syringe holding two ounces and were delivered into the subcutaneous tissues, generally in the axillary region. The dose varied to some extent with the age of the patient, but in adults the average amount given was 30 ounces of serum. Usually 16 ounces were injected as soon as possible after the patient was admitted and in most cases a like amount some hours later.

The cases selected for treatment were mostly of the severest type, the object being to avoid as far as possible the fallacy which arises from the modified course followed by small-pox in vaccinated persons who still retain a certain degree of insusceptibility. Had circumstances permitted only unvaccinated persons would have been selected, but as the number of these was small and the supply of serum limited it was thought better to treat severe cases as admitted, although vaccinated in childhood. Another circumstance which limited the number of suitable cases was the importance of using the serum only when the patient was admitted during the early period of the eruption—that is to say, as soon as the nature of the disease could be recognised with certainty. Of the 13 cases chosen 12 were undoubtedly small-pox, while the thirteenth, as will be seen later, was presumably not a case of small-pox, though its exact nature cannot be defined. Of the small-pox cases three were hæmorrhagic, four presented a confluent eruption on the face, while in five the eruption was very abundant but discrete. Five of the patients died.

It has been thought advisable to give a somewhat detailed report of the course of each case, so that the whole evidence upon which the conclusions are based shall be brought under the notice of the reader. For convenience the cases are arranged in three groups—the hæmorrhagic cases, the confluent cases, and those cases in which the eruption on the face was very abundant but discrete.

### HÆMORRHAGIC CASES.

CASE 1.—A man, aged 35 years, was admitted into the City of Glasgow Small-pox Hospital at Belvidere on May 23rd, 1901, when the temperature was 102° F., the pulse was 65, and the respirations were 22 per minute. There was one primary, non-foveated, and glazed vaccination scar on the right arm measuring 0·27 square inch in area. The present illness began on the 20th with headache, backache, and general febrile symptoms. The eruption was first noticed on the 22nd. On admission three varieties of eruption were observed: (1) a sparse papular rash on the face, the arms, the trunk, and the legs, of fairly equal distribution; (2) a "petechioid" prodromal eruption over the groins and inner sides of the thighs extending over the flanks towards the axillæ; and (3) a hæmorrhagic eruption consisting of a few true petechiæ distributed on the outer side of the right thigh in the trochanteric region, while a moderately large hæmorrhage was present on the outer side of the right leg above the ankle. A few other hæmorrhages of a small size were found on the inner aspect of the left thigh. No petechiæ were seen on the face, arms, or trunk. The patient stated that he had spit a little blood on the day prior to admission and this hæmoptysis still continued. The physiognomy so frequently seen in cases of hæmorrhagic small-pox was present, the pupils were contracted, and the conjunctivæ were suffused, and a dusky flush was present on the face. The pulse was slow, regular, and full, and numbered 65 per minute. There was no complication in the internal organs.

The administration of serum was begun at 4 P.M. on the day of admission. 30 ounces were injected into the tissues of the right axillary region in two portions of 15 ounces each with an interval of two hours between the doses. The patient did not feel any discomfort or pain during the progress of the injection. Immediately thereafter the temperature was 101°, the pulse was 76, and the respirations were 30 per minute, but the temperature rose steadily till at midnight it registered 104°. At this time the pulse was 94 per minute. Absorption of the serum was still incomplete 18 hours after the injection, a fluctuating swelling being present in the right axillary region. There was no sign of local reaction around the seat of puncture. No fresh petechiæ had developed, but the "petechioid" eruption in the groins and round the flanks was more decided. The urine contained a trace of albumin but no blood. During the day the patient had some hæmoptysis. On the 25th the temperature continued between 103° and 105° in spite of frequent cold sponging, the latter temperature being registered at 3 A.M. The pulse-rate varied between 100 and 120, but the rhythm was regular although the tension was low. The papular eruption had developed greatly and was fairly profuse on the face, the arms, and the back. On the back, and to a less extent on the arms, hæmorrhage had taken place into the bases of the papules. There was a fairly profuse petechial eruption most marked over the flanks and groins, but scattered petechiæ were also present on the abdomen and back. Around the puncture through which the serum had been injected a purplish-black area had appeared, circular in shape, with a diameter of five inches, and extending up into the axilla. No blood was expectorated on this day. The urine still contained some albumin, but no blood was detected in it or in the motions, although the bowels had been freely moved by medicine. Towards evening the patient became slightly delirious but answered questions intelligently, and as midnight approached the temperature rose to 106°, but fell during the night till at noon of the 26th it was 102·8°. The true small-pox eruption had now become vesicular and the petechial rash was more pronounced. The hæmorrhagic area round the puncture had slightly increased in size and become indurated. The pulse continued good with a rate of from 100 to 120 per minute. On the 27th there was no distinct change noted in the patient's condition, the temperature remaining between

[1] Scottish Medical and Surgical Journal, August, 1897.

[2] It was only after the publication of the above paper that the authors became aware of the experiments of M. A. Béclère, in which large doses of serum were employed in the treatment of small-pox. (Note sur la Serum-thérapie de la Variole, par M. A. Béclère, Nancy, 1897.

102° and 104°, but the pulse was now much weaker and sometimes ran into a mere thread. On this morning a little blood was detected in the urine for the first time. The patch of hæmorrhage around the puncture was larger. On the 28th the eruption had become fully vesicular and the temperature continued high, but the pulse was of better tension and numbered 102. There was again a trace of blood in the urine. On the 29th the pulse had become very irregular. Subsultus was present. The temperature rose steadily from 101° in the early morning and reached 105° at noon. During the following nine hours it fluctuated slightly and was 103° at 9 P.M.; thereafter it rose to 106·4°, which it reached on the morning of the 30th, when the patient died.

CASE 2.—A woman, aged 40 years, was admitted into the hospital on June 30th, 1901, at 3.45 P.M. on the fifth day of her illness. The attack had been ushered in by the usual febrile symptoms, among which headache, pain in the back, and vomiting were the most prominent. The eruption had appeared on the 29th. On admission the temperature was 101° F., the pulse was 60, and the respirations were 34 per minute. The facial expression was that commonly seen in hæmorrhagic small-pox, the face being flushed and apathetic, the pupils contracted, and the eyes suffused. Under the ocular conjunctiva of the right eye there was a hæmorrhage of considerable size. The trunk and extremities presented a fading dusky scarlatiniform prodromal eruption, while a prodromal rash of "petechioid" spots was present in the groin and over the lower part of the abdomen. In addition to these several small true hæmorrhages were present over the lower part of the abdomen and on the legs. The true small-pox eruption was badly developed, but the forehead presented the characteristic velvety feeling sometimes noted when the early papular eruption is confluent. This eruption was scanty on the trunk and limbs. The pulse was small, soft, and slow. The patient had one primary, non-foveated, and glazed vaccination scar having an area of 0·27 square inch.

After admission the patient vomited persistently till 8 P.M., when an injection of 17 ounces of serum was administered hypodermically in the right axillary region. After the injection the vomiting continued. The vomited matter and the urine passed from the time of admission were free from blood, but the latter contained a trace of albumin. About 11 A.M. on the day after admission a second injection of serum was attempted, but as the patient began to vomit and showed signs of great uneasiness only nine ounces were administered. After the first injection the temperature fell slightly from 99·8° to 99°, at which it continued till 6 A.M. on July 1st, when it began to rise, reaching 100·4° at 9 A.M. After the second injection it continued to rise and reached its maximum of 102·6° at 3 P.M. The pulse seemed little, if at all, affected by the first injection, but about two hours later it increased in frequency and reached 108 immediately before death which took place at 8 P.M. on the day after admission. Prior to death the characteristic small-pox papules had become more numerous and a considerable eruption of small hæmorrhagic spots had appeared over the trunk and limbs, being especially abundant over the lower part of the abdomen and the inner side of the thighs.

CASE 3.—A man, aged 20 years, was admitted into the hospital on May 11th, 1901, when he stated that he had been ill for three days. Though feeling a little out of sorts for some time before the onset of his illness it was only early on the 9th that his symptoms became really violent. An eruption appeared on the 10th. On admission the temperature was 104° F., the pulse was 124, and the respirations were 32 per minute. The patient complained of sore throat and was apparently very ill. The eruption consisted of a livid erythematous rash covering the whole trunk and extremities, while scattered over the skin were a considerable number of petechiæ rather more abundant on the chest and legs than elsewhere. The subconjunctival tissue was the seat of extensive hæmorrhage, so that the conjunctivæ were elevated beyond the corneal level. During the first few hours after admission the patient spat up a considerable quantity of blood and passed a motion which was almost black in colour from the presence of altered blood. There was very little true eruption on any part of the body. The throat was vividly congested and presented a number of papules. The patient presented two vaccination scars having a combined area of 0·9 square inch. These were not foveated and were slightly depressed but moderately well defined.

Between 11 P.M. and 1 A.M. on the following day 16 ounces of serum were injected into the connective tissue of the abdominal wall. The injection did not seem to cause much discomfort or pain. Immediately after the injection the temperature fell, but rose again to 102°, at which it remained approximately till the patient's death at 2 P.M. on May 12th. Prior to death the appearance of the skin was very striking. There was an almost entire absence of the characteristic variolous rash, the skin being of a deep dusky red colour and set with very numerous hæmorrhages varying in size from that of a pin's point to that of a split pea or greater.

Little can be said in criticism of the three foregoing cases. All were of the severest type of hæmorrhagic small-pox—a type which almost invariably ends fatally and where no known treatment seems to exercise any influence on the issue. In the first case 32 ounces of serum were administered, in the second 26 ounces, and in the third 16 ounces. The longest course was that followed by Case 1, in which the true small-pox eruption reached well into the vesicular stage, so that apparently no modifying influence was exercised by the serum either upon the course of the true eruption or upon the hæmorrhagic condition. In this case the seat of injection became the centre of a large ecchymotic spot which on examination post mortem was found to be the result of an extravasation of blood into the subcutaneous and muscular tissues of the pectoral region. Though the vaccination in this particular group of cases has little bearing upon the results of treatment it may be worth noting that all were vaccinated.

### CONFLUENT CASES.

CASE 4.—A boy, aged 10 years, was admitted into the hospital on June 29th, 1901. The illness began on the 26th with headache, nausea, and vomiting. The eruption was first seen on the day of admission. The patient was said to have been vaccinated in infancy but no mark could be detected and consequently his vaccination must be regarded as doubtful. An unsuccessful attempt to vaccinate him had been made the day prior to admission. The temperature when first seen was 101·2° F. but rose shortly thereafter to 104°, when the pulse was 100 and the respirations were 26 per minute. There was an abundant eruption of early small-pox papules on the face, though elsewhere it was less abundant and was not so fully papular. There was also a faint macular erythema over the trunk and lower limbs. The internal organs were healthy on physical examination.

At 3 P.M. on the 29th six ounces of serum were injected into the right axillary region. The temperature rose thereafter and reached 105° at 9 P.M. On the 30th the patient received a second injection consisting of 12 ounces of serum at 11.15 A.M., after which the temperature fell to 99° at 3 P.M. but rose again to 103·6° at 6 P.M. During the night the eruption had developed and was now very abundant on the forehead and face, moderately so on the arms and legs, but scanty on the trunk. It was still papular. On the morning of July 1st the temperature was 99·2° but rose gradually during the day. The pulse was not so good. The bulk of the eruption continued papular but signs of vesiculation were observed here and there. On the 2nd the eruption had become vesicular and semi-confluent on the face which had swollen considerably, while it was still sparse on the trunk. The pulse had improved. From this date till that of the patient's death on the 8th the eruption passed through an uninterrupted and unmodified course of development, being fully pustular and septic at the time of death which took place on the thirteenth day of his illness. The temperature was somewhat irregular but showed on the whole an upward tendency, as is so commonly seen in cases of septic small-pox; coincidently the pulse-rate increased in frequency while the tension gradually fell. In this case there was no local reaction around the seat of puncture and no hæmorrhage occurred in the tissues into which the injection was made.

CASE 5.—A man, aged 37 years, was admitted into the hospital on Feb. 3rd, 1902, with a doubtful history. On admission the temperature was 102·8° F., the pulse was 114, and the respirations were 24 per minute. The eruption was very abundant over the whole body and was in an early papular stage. It promised to be confluent on the face, where its presence was associated with a considerable amount of congestion. Over the rest of the body the papules were arranged in somewhat corymbose fashion, the distribution of the patches being apparently determined by a cutaneous syphilitic eruption of a scaly character. The papules were abundant on the palms and soles. The

fauces and palate were congested and were set with a very abundant rash which extended over the whole of the hard as well as the soft palate. There was one vaccination cicatrix measuring 0·37 square inch, which was non-foveated and ill defined.

Shortly after admission 16 ounces of serum were injected into the subcutaneous tissue of the right axilla and on the following morning a second dose of 16 ounces was injected into the left side. After the first injection the temperature fell to 99° but rose again on the evening of the following day, when it reached 101·9°. On this day the eruption had advanced considerably and was more abundant than on admission and the corymbose arrangement was more striking. The patient complained of no discomfort or pain resulting from the injection. All the serum had been absorbed and there was no evidence of a local reaction. The rash now became fully vesicular and pustulation was noticed on the face on the 9th. From this time onwards the usual course was followed by the eruption, though crusting began rather earlier over the syphilitic patches than on the surrounding skin. The eruption was septic. Throughout the patient's condition was regarded as unsatisfactory, but it became grave on the 12th, when some redness and induration were noticed over the right pectoral region. A patch of cellulitis was observed over the point of the left elbow also and another over the sacrum. The cellulitis over the right pectoral region was treated surgically, but the patient gradually sank and died on the 20th. Before death the temperature rose to 106° and the pulse to 152.

CASE 6.—A man, aged 22 years, was admitted into the hospital on Jan. 28th, 1901, on the fourth day of his illness. This commenced with pain in the head and back and general symptoms of fever. The rash appeared on the day of admission. On admission the temperature was 99·2° F., the pulse was 76, and the respirations were 26 per minute. The eruption was very abundant on the face, the back, the arms, and the thighs, and was in an early papular stage. On the scalp it was sparse and there was none below the knees or on the palms or soles. The fauces and palate were congested and thickly set with papules which extended forward as far as the teeth. Over the lower part of the back the remains of a prodromal erythema were visible. The pulse was small and easily compressible. The heart sounds were feeble.

At midnight 16 ounces of serum were injected subcutaneously and at 2.30 A.M. a second injection of a like amount was administered, but the temperature seemed little influenced. On the 29th the eruption was more abundant, having extended over the legs, the soles, and the palms. Indications of vesiculation were present in a few of the elements on the arms and buttocks. There were no indications of local reaction at the seat of puncture. From the 29th onwards the eruption over the face and trunk developed regularly and the elements which were small and irregular had become fully pustular by Feb. 2nd and on the following day began to dry in. The secondary fever was slight and ended on the tenth day of the illness.

CASE 7.—A woman, aged 36 years, was admitted into the hospital on May 15th, 1901. The history was somewhat indefinite, but it seemed clear that the eruption was first noticed on the 12th. The earlier symptoms consisted of headache, sickness, and those of general fever. The eruption over the face and the greater part of the body was in the early vesicular stage. On the face it was confluent and abundant and evenly distributed on other parts of the body. The temperature was 101° F. The vaccination was doubtful.

At 11 P.M. on the day of admission 16 ounces of serum were injected into the subcutaneous tissue of the right axilla. The temperature at the time of administration was 101° and this fell towards morning to 100°. In the morning the patient declared that she felt much better, but her pulse was somewhat rapid, being 124 per minute. The whole of the serum had been absorbed and there was no evidence of a local reaction. The eruption, which was more decidedly vesicular than on the previous day, felt very dry, as is so frequently the case with eruptions which ultimately run a modified course. It should be stated that this character of the eruption was present, though in a less degree, before the serum was administered. On the 17th there was commencing pustulation on the face and on the 19th the eruption in this situation was commencing to crust, while on other parts of the body pustules were still present. On the 20th the temperature fell to normal and did not rise again. Convalescence was uninterrupted.

In regard to this group of cases the following points may be noticed. In all the dose of serum administered was considerable. In two of them 32 ounces of serum were injected subcutaneously; in one, a boy, 18 ounces were given, while in the fourth case owing to the modified course followed by the eruption only 16 ounces were administered. There was no evidence of local reaction in any of the cases. In Case 5, however, it is open to discussion whether the cellulitis might not have resulted from the injection of the serum. In this connexion it should be observed that the case was exceedingly septic from the maturation of the pustules onwards; that the first patch of cellulitis commenced at some distance from the seat of puncture and made its first appearance on the tenth day after the serum had been injected and that a similar condition appeared a little later over the left elbow and over the sacrum—that is to say, a long distance from the first puncture; and, lastly, that the patient was the subject of late secondary syphilis.

As to the course followed by the confluent cases, as has been already said, two proved fatal, in one of which the vaccination was doubtful while in the other the area of vaccinal scarring measured 0·37 square inch. The former of these patients died on the thirteenth day of illness and the latter on the twenty-third and in both the eruption ran an unmodified course from begining to end. Of the two cases where recovery ensued, in one (Case 7) the vaccination was doubtful while in the other (Case 6) there were four scars with an aggregate area of 0·66 square inch, three-quarters of which was foveated, yet in spite of the apparent differences as regards vaccination both ran a somewhat similar course. In both cases desiccation commenced on the tenth day from the first appearance of symptoms and in both the temperature fell to normal with the first appearance of drying in. This course as seen in Case 6 is that commonly enough observed in persons suffering from small-pox who still enjoy a certain degree of protection derived from their original vaccination. The doubtful character of the vaccination, however, in Case 7 raises the question as to whether the modified course followed by the patient's attack might not have been the result of the serum, but, as a matter of fact, she received only 16 ounces and that because on the day after the injection the dryness and general character of the eruption seemed to indicate that it was about to follow an abortive course, or, in other words, the physical conditions of the rash suggested that the patient possibly enjoyed a certain degree of immunity the result of vaccination performed in infancy of which no local evidence could be discovered. The abundance of the eruption on the arms during the acute stage of the attack and the changes in the skin present thereafter while the patient was under observation made the certain detection of vaccination scars of small size practically impossible.

### CASES IN WHICH THE ERUPTION ON THE FACE WAS VERY ABUNDANT BUT DISCRETE

CASE 8.—A man, aged 48 years, was admitted into the hospital on Feb. 21st, 1902. His illness began on the 17th with general febrile symptoms, but of these none was especially prominent. The eruption was first noticed on the 20th. The patient's temperature on admission was 101·6° F., the pulse was 80, and the respirations were 24 per minute. There were two foveated vaccination scars on the left arm, with a combined area of 1·12 square inches and with well-defined margins. There was a discrete but abundant eruption present on the face and back and a similar but less abundant rash on the arms, the legs, and the front of the trunk; it was moderately abundant on the soles and the palms. This eruption had all the physical characters of an early papular small-pox rash which gave promise of becoming very abundant. The patient complained of soreness in the throat and this on examination proved to be congested and set with a number of small papules. There was nothing to be found in the internal organs on physical examination.

About four hours after admission the patient received an injection of 16 ounces of serum into the subcutaneous tissue of the left axilla and about an hour later a second injection of a similar amount was made into the left flank. After the injections the temperature fell and reached normal in the early morning. At this time an examination of the urine revealed the presence of a trace of albumin. During the following day the temperature rose and reached 102° at midnight, but towards morning it fell again to 99·8°. An examination of the sites of injection showed a little swelling in both situations with some pain and tenderness.

Over the site of the injection in the flank there was a certain amount of erythema, which, however, might have been caused by a 1 in 20 carbolic dressing applied prior to injection. The eruption had developed very irregularly, the elements varying greatly in size. There was a good deal of pain in the throat and the palate and fauces were well covered with eruption. From the 22nd onwards the eruption ran a rapid course, becoming fully papular on the face by the 25th. The pustules were small, flat, and very irregular both in shape and size. On the 27th the eruption on the face had quite dried in without distinct crusting, leaving the part covered with whitish desquamating scales. A similar condition of the eruption was present on other parts of the body. The patient was dismissed well on April 5th.

CASE 9.—A girl, aged 17 years, was admitted into the hospital on March 1st, 1902, on the fifth day of the illness. The history showed that the eruption was first seen on the day of admission, but previously to this a measly prodromal rash had apparently been present. The general symptoms were those of fever and the temperature on admission was 103° F., the pulse was 120, and the respirations were 30 per minute. The patient presented two vaccination scars having a combined area of 0·48 square inch. These were non-foveated and otherwise unsatisfactory. The characteristic small-pox eruption was moderately abundant on the face, the palms, the palate, and elsewhere, but was much less abundant on the soles. It was in an early papular stage and on admission was still mixed with traces of the fading prodromal rash.

At 9.15 P.M. on the day of admission 16 ounces of serum were injected in the right axillary region. The temperature, the pulse, and the respirations were quite unaffected by it, all continuing practically the same as on admission. On the 2nd the patient's condition remained unchanged; the eruption on the face, however, was now commencing to show slight traces of vesiculation. The pulse, the temperature, and the respirations continued as before. At 4 P.M. a second injection consisting of 16 ounces of serum was given hypodermically in the left axillary region. After this injection the temperature rose till by 6 A.M. of the 3rd it had reached 105°, the pulse at the same time reaching 136 and the respirations being 36. By the 3rd the eruption had increased in amount on the lower part of the body and on the legs, while that on the face had advanced considerably in its development. From this date to the 7th the temperature fell steadily by lysis and became normal at 2 A.M. on that day, remaining practically so thereafter. During this period the eruption had become vesicular over the greater part of the body, but pustulation did not take place in any of the elements, while many of the papules, especially in the lower extremities, developed imperfectly. At this stage the vesicles dried in without crusting, giving rise to a powdery desquamation, though in parts the epidermis separated in small flakes. The face remained rough and warty for some time after complete desquamation had taken place. There was no complication during the course of the illness nor was there any local reaction at the seat of the puncture. The patient was dismissed well on April 16th.

CASE 10.—A woman, aged 21 years, was admitted into the hospital on March 9th, 1902, on the third day of her illness. This began on the 7th with headache, vomiting, and general febrile symptoms. The eruption appeared on the day of admission. When first seen the temperature was 102·8° F., the pulse was 130, and the respirations were 32. There was a punctiform erythema over the whole body and in the inguinal triangle there were numerous "petechioid" spots. The face presented a very abundant eruption of small-pox papules, many of which were just beginning to appear. The legs were free, while the fauces and palate were congested and set with numerous papules. The patient had three vaccination scars which had a combined area of two square inches. These scars were non-foveated and puckered but were well defined at the margins.

At 4 P.M. on the 10th the patient received an injection of 30 ounces of serum into the subcutaneous tissue of the left axilla. The temperature at the time of administration was 97·6°, but it rose after the injection and reached 105·6° four hours later. Thereafter it fell again at 5 A.M. and on the following morning registered 97·4°. The eruption had now extended over the body and the prodromal rashes had disappeared. There was no appearance of a serum rash or sign of a reaction at the seat of puncture. The temperature was slightly irregular and did not completely settle till the 17th, at which date the rash began to show signs of desiccation. From this date the eruption dried in rapidly without the formation of crusts, the epidermis separating in the form of white flakes. The elements of the eruption throughout on the face and elsewhere were unusually small and irregular in form, presenting the appearance frequently seen in modified rashes.

CASE 11.—A female child, aged five years, was admitted into the hospital on June 27th, 1901, on the fifth day of her illness. The eruption had been first noticed on the evening of the 26th, but on the morning of the 27th it was more fully developed and more abundant. On admission there was a tolerably abundant but quite discrete eruption on the face and limbs, while on the trunk it was sparse. The rash consisted of small-pox papules in an early stage of development, but here and there the appearances suggested a commencing vesiculation. The throat was congested, but there was little eruption on the fauces. The temperature was 99·6° F. on admission. The vaccination was doubtful.

About eight hours after admission the patient received four ounces of serum hypodermically and about nine hours later a further dose of the same amount was injected. A similar dose was administered on the evening of the same day, and on the morning of the 29th a fourth dose of four ounces of serum was given. Apparently the temperature was little if at all influenced by the serum. Between the date of admission and July 1st the eruption had run the usual course and was fully vesicular over the greater part of the body, while on the face pustulation was fairly advanced. On the following day the greater portion of the eruption was showing signs of pustulation. On the 3rd crusting commenced on the face and in the course of the next few days was completed over the whole body.

CASE 12.—A woman, aged 36 years, was admitted into the hospital on June 8th, 1901, on the fourth day of her illness. This began on the 5th with general febrile symptoms of which headache, nausea, and vomiting were the most prominent. When the patient was first seen the temperature was 101·4° F., the pulse was 104, and the respirations were 30 per minute. The eruption, which was first noticed the night before admission, was abundant but discrete on the face, less on the arms and back, whilst elsewhere it was much less thickly set, being especially sparse on the legs. The throat was congested and presented a considerable number of papules on the palate and fauces. In the region of the groins there was a prodromal eruption of "petechioid" spots and a similar prodromal eruption was present in the axillæ. There was a single non-foveated, glazed, and ill-defined vaccination scar on the left arm having an area of 0·44 square inch.

Two hours after admission 16 ounces of serum were injected into the left axillary region and nine hours later a second injection of 16 ounces was made in the region of the right axilla. Neither injection caused the patient pain or discomfort. The temperature at the time of the administration of the first dose of the serum was 101·8. It fell after the injection to 100°, but rose again to 103·4°, which was reached at 9 P.M. After the second injection the temperature fell to 98·4°, but rose within 12 hours to 101° and thereafter ran the course usually seen in the secondary fever of small-pox. The day after the injection the eruption had become more abundant but was still papular except on the face where vesiculation was beginning to appear. On the 10th the eruption had become fully vesicular and on the 14th fully pustular, thus running a practically unmodified course. There was no local reaction in the neighbourhood of the puncture nor was any serum rash observed.

In the foregoing five cases the eruption was very abundant but discrete on the face. In four cases vaccination was undoubted, while in the fifth case it was doubtful. The ages ranged between five and 48 years. The course followed by all was somewhat similar. In three of the cases 32 ounces of serum were administered, in one 30 ounces, and in the last (a child aged five years) 16 ounces were given. In Case 11, where vaccination was doubtful, desiccation with the formation of crusts commenced on the face on the eleventh day from the first appearance of symptoms, and on the same date the temperature fell to normal. The course of the disease was slightly modified, though not to the extent observed in some of the other cases included in this group, yet sufficiently so to suggest either that the child, as alleged by the parents, had been vaccinated, though no local evidence of this could be discovered, or that the disease was slightly modified by the treatment. The conditions, however, were such as are

commonly seen in persons slightly protected by vaccination, and this is, therefore, so far as our present knowledge goes, the more likely explanation. In three of these cases the rash was considerably modified, passing through the papular and vesicular stages, while desiccation commenced early in the pustular period. In none of these were crusts formed, the eruption drying in and leaving behind a desquamating epidermis which separated in the form of small white flakes. In one of these, in spite of the apparent modification of the attack, the verrucose condition of the face at the time of the patient's discharge from hospital was very marked. In these three cases desiccation commenced, so far as could be judged, in the course of the eleventh day of illness, the temperature falling to normal on the same day. In the last case belonging to this group the patient had a vaccination scar measuring 0·44 square inch, but the course of the attack was practically unmodified. The eruption ran a full course, desiccation resulting in the formation of crusts commencing on the twelfth day, when also the temperature became normal. In this case neither the treatment nor the vaccination seemed to have exercised any influence whatever.

The only case which now remains to be discussed is the following.

CASE 13.—The patient, a young man, aged 21 years, was admitted into the hospital on June 3rd, 1901, on the fourth day of his illness. Previously to this he had suffered from severe headache, pain in the back, sickness and general febrile symptoms. The eruption was first noticed a few hours prior to admission. When admitted the temperature was 102° F. and the patient seemed to be very ill. There was an abundant eruption of papules on the face where they were so thickly set as to be almost confluent. On the chest and back the rash was very abundant, but less so than on the face, while on the extremities it was very scattered and was evidently just appearing on the lower part of the legs. The throat was congested and a papular eruption was present on the soft palate. The trunk was covered with a bright erythema. There were two vaccination cicatrices on his left arm.

At 10 P.M. on the day of admission 19 ounces of serum were injected into the right axillary region. The temperature, which at the time of injection was 101·6°, fell immediately thereafter to 99°, but rose again, reaching 102·8° at 6.30 A.M. The injection caused neither pain nor discomfort. On the morning of the 4th the eruption had greatly faded, though the papules were still distinctly palpable. No fresh papules had appeared on the legs. At 10 A.M. a further injection of 12 ounces of serum was administered. The temperature during the day continued moderately high and reached 103·4° at 6 P.M. On the 5th the eruption had faded to such a degree that it was scarcely palpable either on the face or the trunk. The congestion of the fauces and the palate had greatly diminished, but two or three small whitish papules were still visible on the latter. The temperature ranged between 101° and 102°, the pulse was regular, and the urine contained a trace of albumin. The behaviour of the eruption both on the skin and the palate was so unlike that of small-pox in its papular stage that it was suspected we were dealing with some condition other than small-pox, and the patient was consequently revaccinated. On the 6th the temperature ran lower, but there were still a few papules to be seen on the back. The patient was again revaccinated and on the 7th he was revaccinated for the third time. On the 8th the earlier revaccinations showed a distinct reaction. On the morning of the 10th a brilliant red blush was seen extending from the apex of each axilla to the crests of the ilia; it also reached from the outer margins of the sternum round the sides to within six inches of the spine. On the front of the chest it stretched upwards as far as the clavicles. It was not seen on any other part of the body. The area of the erythema was oblong in shape and the congestion more vivid round the seats of puncture. In each axilla there was slight enlargement of one or two lymphatic glands. On the 11th the erythema had extended to the extremities where it preserved its symmetrical character, the brightest parts being the inner aspects of the knees and the dorsal surfaces of the feet. On the 12th the eruption had begun to fade but was still well marked on the flanks. The revaccination was running a normal course. The temperature did not finally fall till the 16th, when 97·3° was reached and maintained. The vaccination ran a complete course, such as is usual in persons who have largely lost the immunity conferred by primary vaccination, and such as in the experience of this hospital is never seen when vaccination is performed upon a person during the early eruptive period of small-pox.

When admitted this patient presented symptoms of a moderately acute fever associated with the presence on the skin of an eruption having all the characters found in the early papular stage of the small-pox rash. The case was seen by several physicians familiar with small-pox and the general opinion was that he was suffering from an attack of that disease. As the rash was just appearing it was thought an unusually suitable case for the administration of serum, but when the eruption was found to be disappearing on the third day after admission it was deemed prudent to reconsider the diagnosis and the patient was consequently revaccinated. The revaccination took very well and passed through the usual course. On the eighth day after admission—i.e., the eleventh of illness—a brilliant rash appeared which involved the greater part of the skin and was presumably due to the serum administered. This rash gradually faded, but neither its advent nor its disappearance seemed to influence notably the temperature, which did not finally become normal until the seventeenth day of illness. The fact that the patient was revaccinated successfully after receiving 31 ounces of serum is both notable and suggestive.

### GENERAL OBSERVATIONS.

Though the results of these observations are inconclusive—we might almost say negative—in most respects, yet it would be a mistake to say positively on this evidence that the influence of immunising serum is never beneficial in small-pox, and we would suggest that further experiments be carried out with similar or even larger doses of immunising serum, for, judging from the experience in the City of Glasgow Small-pox Hospital when ordinary antiseptic precautions are used, the administration of these large doses of serum is unattended by any serious risk of sepsis, while the general health of the patient, if affected at all, is certainly not affected deleteriously. Further experiments with this serum are called for to determine whether, when collected from the immunised animal, say within a month of vaccination and used immediately thereafter, it possesses more active properties than when taken at a later date and stored for some time before use. The intravenous injection of serum likewise demands investigation, for it is possible, if we judge from the experience of the hospital in the intravenous injections of serum in plague and diphtheria, that some of the immunising substances may be, to a greater or less extent, filtered from the serum or in some other way altered during their passage through lymphatic tissues.

Regarding the influence of the serum upon the symptoms it would seem as if these were in no respect modified. The temperature was but little altered, in some cases showing a slight fall and in at least one case a very notable rise after the injection. The slight fall may possibly have been the result of the coldness of the serum which was kept in ice and injected when occasion demanded without its temperature being raised. Apart from these variations the temperature was usually such as is found in variola uninfluenced by treatment. The condition of the urine likewise seemed to be uninfluenced by the serum injection. Albumin was occasionally present but in no greater amount or frequency than is commonly observed in the severer forms of small-pox. The other symptoms in the same way showed no kind of modification, the pulse, respiration, and nervous condition being those usual in this disease. With regard to the eruption, however, the evidence is less positive. The hæmorrhagic and prodromal rashes followed the usual course, the hæmorrhages becoming more abundant and sometimes extending in area up to the time of the patient's death. With regard to the true variolous eruption the same cannot be said, for while in certain cases it passed through the usual stages of its development, the pustules in two cases becoming excessively septic, in others it ran a decidedly modified course.

It may, perhaps, be better to set aside the hæmorrhagic cases from further discussion, seeing that all the patients died almost certainly before the serum had time to exercise any immunising action it might possess. We will therefore give our attention to those cases only in which the serum might have been expected to exercise some protective action.

In one of these cases death took place on the thirteenth and in the other on the twenty-third day of illness. In the former the administration of serum was begun on the tenth and in the latter on the eighteenth day before death, so

that if we are to judge by the alleged influence of immunising serum in preventing the full development of vaccination in susceptible animals, in both of these cases there was ample time for the manifestation of any such action which might be possessed by the serum to show itself.[3]

The other seven cases ran a more or less modified course, with the exception of one of the less severe cases in which the attack was practically unmodified, crusting commencing on the face on the twelfth day of illness. In this case the serum was administered on the ninth day before crusting commenced, so that there was presumably sufficient time for the immunising action of the serum to show itself. In the other patients the eruption ran a distinctly modified course, showing that some protective influence was present in each case, but whether this influence was furnished by a primary vaccination or by the injection of the immunising serum is not easy to say.

Of these six cases, five were undoubtedly vaccinated, while in one the vaccination was doubtful. In the former the area of vaccinal scar varied between 0·44 square inch and two square inches, but in only two was foveation present. The ages varied between 17 and 48 years. It is impossible to assess the precise degree of protection enjoyed by these patients as the result of their original vaccination, but the extent of the eruption and the date at which desiccation commenced showed that this was by no means great. It is likewise impossible to determine whether the less severe course followed by these cases and the rapid desiccation of the eruption, sometimes without crusting, are to be attributed to the action of the serum, but judging from the result of experiments upon the immunising action of serum from vaccinated heifers when injected into heifers prior to vaccination it is probable that in most of the cases under discussion the serum was administered sufficiently early to influence the course of the disease if it was capable of doing so. Some light may be thrown upon this point by consideration of Case 13. In this case 19 ounces of serum were injected 48 hours, and an additional 12 ounces 24 hours, prior to vaccination, yet in spite of this large dose of immunising serum the revaccination was successful and ran the usual course. This observation is probably unique and shows that an amount of serum equal to 1 in 75 of the patient's weight was unable to bring about any change in the course commonly followed by revaccination. This patient almost certainly did not suffer from small-pox, and this opinion is based upon the course followed by the eruption, which was quite unlike that seen even in the most modified cases of that disease, and in addition the patient was successfully revaccinated—a fact which is strongly in favour of the opinion just given, for though it is possible to vaccinate an individual during even the last day of the incubation period in some cases, and even during the prodromal stage, the local reaction being often marked and running quite a normal course, yet vaccination performed after the first appearance of the rash has, in the experience of the City of Glasgow Small-pox Hospital, invariably proved negative. In this connexion it may be stated that while during the past ten years about 250 persons have been vaccinated at various dates after the appearance of the eruption yet the operation proved unsuccessful in every case. In a few, papules of about the size of a small split-pea appeared having characters unlike those usually seen in the papule caused by vaccination. In others a slight reddening of the vaccinated area with increased prominence of the cutaneous papillæ resulted, but in the great majority no local reaction which could be ascribed to vaccination occurred, nor in any instance was there any suggestion of the development of a papule into a vesicle.

An analysis of the different cases cited here shows the following:—1. No action of any kind was observed in the hæmorrhagic cases treated with serum. In Cases 1 and 2 as the serum was administered only 24 hours before death there was probably too little time for it to exercise any influence; but in Case 3, where the patient died a week after the injection, there was probably sufficient time for the influence of an immunising agent to become apparent had the serum contained such a substance in sufficient amount. 2. In certain cases in which the serum was administered from eight to 18 days before death or commencing desiccation, no influence whatever seemed to be exercised upon the course of the disease, though in these there was ample time for the serum to act. 3. In the remaining six cases the serum was administered from four to seven days before desiccation commenced. In all of these the course was modified and there was probably sufficient time for the serum to exercise an immunising influence, but as all, with two exceptions, were undoubtedly vaccinated, and as these two were probably vaccinated, it is impossible to determine whether the modified course resulted from the primary vaccination or from the treatment. 4. Case 13 shows that the serum completely failed to modify the course of a revaccination. 5. It is possible that the eruption which appeared on the eighth day after the serum was administered may have been due to the presence in the serum of some agent identical with, or closely resembling, substances present in the blood of variolous patients. 6. That the serum in Case 13 did exercise some influence upon the tissues, though none so far as could be determined on the vaccination, is suggested by the development of the cutaneous erythema on the eighth day after the administration of serum was begun. Details of this eruption and of its distribution have already been given, but we may observe here that the characters and distribution were precisely those so frequently present in the erythematous and some other of the prodromal eruptions so commonly found in variola and varicella and exceptionally after vaccination. This suggests that some active body may be present in the serum in sufficient quantity to produce a distinct reaction in the absence of variola—that is to say, when the individual has not been immunised by passing through the earlier stage of small-pox against the toxins presumably present in the serum.

Though not directly bearing on the treatment of small-pox by serum it may not be out of place to add a few remarks regarding the special sequelæ which may attend the administration of large doses of serum in plague and in diphtheria. The prevalence of these diseases during the last few years has afforded exceptional opportunities for acquiring experience in the use of serum in large doses. During the last outbreak of plague in Glasgow some of the patients had as much as ten ounces of anti-plague serum administered either hypodermically or by the intravenous method, while in a number of cases of diphtheria where death seemed impending anti-diphtheritic serum to the amount of four ounces was given through the same channels. Anti-plague and anti-diphtheritic serum are both derived from the horse and their administration is frequently followed by a marked reaction in which fever with articular pains and cutaneous eruptions of an erythematous and urticarial character are prominent features. The severity of this reaction bears apparently no relationship to the amount administered, being often very severe where minimal doses are given and absent in many cases where the dose administered is large. The action of anti-variolous serum differs markedly from that just referred to, as it only once, in our experience, was followed by any reaction which could be directly attributed to it. This experience is in agreement with that of M. Béclère[4] who found that the serum of heifers is much less toxic when administered to man than that of horses, but the frequency with which, according to M. Béclère, cutaneous eruptions followed on the administration of anti-variolous serum is contrary to our experience—a fact which suggests that the serum used by us may possibly have contained fewer toxic substances than that employed by that observer.

Glasgow.

[3] MM. Béclère, Chamton, et Ménard: Annales de l'Institut Pasteur, 1896 and 1899.

[4] Note sur la Sérum-thérapie de la Variole, par M. A. Béclère, Nancy, 1897.

## ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

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IN 1848 Heyfelder successfully used ethyl chloride as a general anæsthetic in the human subject. Benjamin Ward Richardson[1] also found it to be a good anæsthetic. He placed a pigeon in a chamber and diffused the vapour of the chloride through the chamber. He says: "The density of the vapour, taking hydrogen as unity, is 32·25. The period for producing narcotism with this vapour is of necessity prolonged and the vapour requires to be pushed freely and vigorously into the chamber or it will produce little more

[1] Medical Times and Gazette, Dec. 28th, 1867.

than excitement. The excitement is rather great, but in a minute or two the animal succumbs. The breathing is short and oppressed and the anæsthesia is not deep. During recovery there will possibly be some convulsive action." Ethyl chloride was tried as a general anæsthetic in animals by a committee of the British Medical Association.[2] This committee found that it quickly caused convulsions and stoppage of respiration so that its employment was denounced. Little more was heard of it till in 1895 and 1896 Carlson and Thiesing observed that in certain cases where the drug was used locally general anæsthesia was produced. Thiesing actually tried the effect of the drug on himself and others. Then Billeter and other dentists advocated its employment as a general anæsthetic in dental work. Lotheisen[3] of Innsbruck, seeing in a German journal that Soulier of Lyons had used ethyl chloride as a general anæsthetic, tried it himself. Soulier, however, did not use ethyl chloride, but another similar drug, ethylidene chloride. Soon a goodly number of cases of ethyl chloride narcosis were recorded by Lotheisen, Ludwig, and Wiesener, and since 1898 ethyl chloride has been employed in many thousands of cases. Seitz[4] of Konstanz collected up to the end of last April 16,000 cases of narcosis carried out throughout the world, of which I gathered for him 525 in England. In these cases there was one death, that of a very unfavourable subject.[5] Since April some thousands of other cases have been recorded, among them being another fatal case, also in a bad subject. The patient was a child, aged one year and nine months. The operation was tracheotomy for diphtheria. The patient died suddenly about three minutes after the beginning of the operation. Post mortem nothing beyond the usual pathological appearances of diphtheria was found except an enlarged thymus gland. Death in this case was due to heart failure and the ethyl chloride may not have been the principal factor in the fatality.[6]

Seitz, comparing the death-rate of ethyl chloride with that of other anæsthetics, gives the following figures:—pental, 1 in 200; chloroform, 1 in 3000; ether, 1 in 5000; ethyl bromide, 1 in 8000; and ethyl chloride, 1 in 16,000. Thus it would appear that, according to Seitz, the safest anæsthetic is ethyl chloride, with the exception of nitrous oxide, in which, of course, the death-rate might be put at 1 in many hundreds of thousands. However, perhaps it is not quite fair to compare ethyl chloride, which has only been used, say, some 25,000 or 30,000 times, with drugs which have been administered many scores and hundreds of thousands of times. I may remark that nitrous oxide is little used on the continent and that chloroform being the commonly used anæsthetic surgeons are always on the look-out for some quickly narcotising drug the action of which speedily passes over and which may be used for short operations. Ethyl bromide has in recent years been very much used, but its death-rate has been set at 22 in about 120,000 cases. This is probably too high a reckoning but it is certain that at least 22 deaths have taken place during, though perhaps not always from, ethyl bromide anæsthesia. Ethyl chloride seems to be quickly growing in favour abroad.

*Physico-chemical characters.*—The chemical formula is $C_2H_5Cl$. It is a colourless liquid of aromatic odour and has a sweetish taste. Its density is 0·92 at 0° C. The density of its vapour, taking air as unity, is 2·3 and its boiling point is 12·5° C. It volatilises at ordinary temperatures without residue. It is very combustible and burns with a green flame, setting free hydrochloric acid. As usually put up, in tubes, it does not show a tendency to decompose. I have used ethyl chloride which has been in stock for 18 months.

*Physiological action.*—Owing to its great volatility ethyl chloride is very quickly absorbed and almost as quickly eliminated. This is a great point in favour of safety. Wood and Cerna found that ethyl chloride caused augmentation of the respiratory movements and lowering of the blood pressure during narcosis, with immediate return to the normal state. The pulsations of the heart decreased in frequency at first and were increased towards the end of the administration. Seitz found from sphygmographic observation that the arterial pressure was rather raised during narcosis, while the vascular tone and cardiac action were stimulated. Koenig experimented on a dog, a rabbit, and a monkey. He found that the rapidity of narcosis depended on the degree of dilution of ethyl chloride with air. A mixture of 1 in 10 of air caused narcosis at the end of six or seven minutes. In equal parts narcosis was complete in some seconds and lasted for several minutes. In the dog the arterial pressure was slightly lowered. If ethyl chloride were used without any admixture of air the lowering of arterial pressure was regular and very rapid, ending in stoppage of the respiration and heart beats. In the monkey much the same effects were observed. "During complete narcosis," says Koenig, "the vagus nerve became inexcitable." Koenig's experience on the arterial depression agrees with the results of Malherbe and Roubinovitch[7] obtained in man by means of the sphygmo-manometer of Potain. In 24 cases cited by these authors arterial tension was lowered 22 times. In a general fashion the number of arterial pulsations varied directly as the degree of arterial tension, diminishing during anæsthesia and increasing and returning to the original number on awakening. In 16 observations they found in all the existence of intermittences and in one case of intermittent bigeminal pulsations during narcosis. Most authors have asserted that there are no changes in the urine after administration, but the two just quoted found biliary pigment and traces of albumin, indicating slight affection of the cells of the liver and kidneys. Such manifestations, however, were quite transitory. These, and other more serious changes, by the way, occur after chloroform and ether narcosis. Seitz says that the respiratory centre is affected before the cardiac apparatus, thus giving time for effective resuscitative measures.

From personal experience, during administration, I have not been able to satisfy myself that arterial tension, as a rule, is lowered, but have found that the pulse during deep narcosis sometimes becomes rather slower than normal and usually preserves its regularity. Respiration, however, is markedly stimulated, both in frequency and depth, during deep anæsthesia. The colour is improved, because of vaso-dilatation, which often leads to sweating, and, as I have once recorded in THE LANCET,[8] a well-marked rash, like the ordinary ether rash, has appeared over the upper part of the body. Considering the vascular flushing and stimulation of respiration I cannot imagine that, any more than is the case with alcohol, there can be any dangerous degree of circulatory depression while these exist; and, as a matter of fact, just as in the administration of ether, so long as respiration is forcible and colour is good I pay little or no attention to the frequency or quality of the pulse, even in a patient sitting upright for a dental operation.

With regard to the type of patient, children as a rule take ethyl chloride very well and quietly. Adults also very quickly pass under its influence. Any trouble during induction occurs usually with hysterical people, drinkers, smokers, and strong men. In most cases excitement varies directly as the quantity of air admitted during the induction of anæsthesia. The accounts of excitement recorded during induction and the failures to cause anæsthesia are in almost every case due to too much mingling of air with the vapour. It has been found that in Russia, where the patients are great consumers of exciting drinks, especially alcohol, tea, and coffee, excitement is much more common than in other countries where less of these liquids is taken. Seitz in 310 cases only twice found a state of excitement and then in alcoholics. The resulting tonic spasm of the extremities was so great as to make operation impossible. According to Blank of Kieff immoderate tea-drinking more predisposes to excitement than alcohol and coffee specially tends to cause vomiting.

*Course of the narcosis.*—A great many different statements as to the rapidity of action of ethyl chloride have been made, but from a perusal of all the literature that I can find it is apparent that the rapidity of induction of anæsthesia and the amount of excitement depend altogether on the degree of exclusion of air. In my earliest cases, recorded in THE LANCET,[9] I used Breuer's mask which admitted a fairly large amount of air along with the vapour and did not allow re-breathing. Then considering that certain cases of excitement and one or two failures altogether to induce anæsthesia were due to the too great dilution of the vapour

[2] Brit. Med. Jour., Sept. 18th, 1880.
[3] Archiv für Klinische Chirurgie, 1898.
[4] Deutsche Monatsschrift für Zahnheilkunde, xx. Jahrgang, 1902, Mai Heft.
[5] Lotheisen: Münchener Medicinische Wochenschrift, No. 18, 1900. Translations, Birmingham Medical Review, January and December, 1900.
[6] Bossart: Correspondenzblatt für Schweizer Aerzte, Oct. 1st, 1902.
[7] Malherbe and Roubinovitch: Le Bulletin Médical, June 11th, 1902.
[8] THE LANCET, July 20th, 1901, p. 123.
[9] THE LANCET, March 9th (p. 698) and July 20th, 1901 (p. 123).

with air in this inhaler, I, as I had previously suggested in a short article on ethyl chloride in THE LANCET,[10] began to administer from an Ormsby's ether inhaler, since when in more than 350 cases I have only once met with a marked degree of mental or muscular excitement during narcosis and that was in the case of a young man who had just been drinking whisky freely. The excitement, however, in his case was not uncontrollable. It is a great thing, I think, to say of any anæsthetic that in so many cases only one instance of excitement has been met with. Of course in the case of children there is occasionally struggling from fear during the first few breaths. Since using this inhaler I have found the induction of anæsthesia to be wonderfully speedy. I find the most useful form of Ormsby's inhaler is that devised by Hewitt as it contains a removeable water chamber which can be heated in hot water and, lying against the sponge, prevents it from freezing, as it is liable to do when ether or ethyl chloride is used. The tubes of ethyl chloride are graduated in cubic centimetres, hold 60 thereof, and have a larger spraying capacity than usual. I have mostly used kelene or Henning's æther chloratus pro narcosi, but am now also administering a preparation made for me by Messrs. Duncan, Flockhart, and Co. in Edinburgh. This has given very good results, is more agreeable, and, I believe, purer than kelene. The vapour of ethyl chloride is by no means disagreeable. I have had it myself and have found its subjective effects are as nearly as possible like those of nitrous oxide. Taking it one day from a Clover's inhaler consciousness disappeared in 20 breaths, and when next I looked at the clock I noticed that five minutes had elapsed. Personally, I have not suffered any after-effects. It is by some patients preferred to nitrous oxide. In certain cases this may be because I have given ethyl chloride by Ormsby's inhaler, through which, of course, respiration is perfectly free, while in certain old-fashioned forms of gas apparatus the airway is rather narrow and a sense of choking or suffocation may be brought about. The nervous patient, moreover, breathes much more easily through an Ormsby's inhaler than any other form of gas apparatus. Certain it is that the vapour of ethyl chloride if given in proper doses of from three to five cubic centimetres from an Ormsby's inhaler or any other is not unpleasant and is not irritating to the mucous membranes, nor does it cause a feeling of suffocation. Some administrators have used small cones made of non-porous material and others many folded compresses fitting closely over the face to administer ethyl chloride, thus as far as possible excluding air and possibly introducing an asphyxial element. It has been remarked that the struggling, which is not uncommonly associated with complete exclusion of air, is in itself liable to produce syncope. Again, such apparatus as a cone of paper or cloth must be pressed so firmly on to a patient's face as sometimes seriously to disturb him. The full-sized Ormsby's inhaler will hold about two full breaths of air when distended and when applied in the ordinary way probably already contains the amount of one full breath of air. If to this be added the amount of one expiration when the bag is applied it contains practically two full breaths of air, minus, of course, the 4 per cent. of oxygen which has been absorbed into the lungs during the last breath. Since 20 per cent., roughly speaking, of the air breathed consist of oxygen, and supposing that at each breath 4 per cent. are absorbed there remains in the bag enough oxygen for nine full breaths or thereabouts before there need be any lack of oxygen in the lungs, but as the breathing during induction is usually lighter than normal the time taken to absorb this quantity of oxygen is often much greater, and before the time that all the oxygen in the residual and supplemental air is used up full anæsthesia, as a matter of fact, is found to exist.

In the larger number of my cases ethyl chloride has been given for the removal of adenoids and tonsils or for dental extractions, and it will be of interest to know the time taken during induction of anæsthesia and the duration of anæsthesia after the removal of the mask. In some of these instances, where the operation was not expected to be severe, I have only induced light anæsthesia—that is, have allowed retention of the conjunctival reflex; but in most cases deep narcosis has been induced—that is, as shown by soft snoring or stertor, loss of conjunctival or corneal reflexes, lax muscles, usually rather dilated pupils, and eyeballs turned downwards and inwards. By the way, it may be remarked that the size of the pupil is much greater during early deep anæsthesia with ethyl chloride than is the case with other anæsthetics of which I have had experience. In a long case the pupil contracts after the first few minutes. So far as I can judge dilated pupil is generally coincident with deep anæsthesia, in the early stages at any rate. Anæsthesia, in free-breathing patients, seems to occur as quickly in the case of children as in adults. The single dose which I use with an Ormsby inhaler is generally about three cubic centimetres for a child and from five to seven cubic centimetres for an adult, sprayed on in one dose. Reapplication of the inhaler in certain of the dental cases resulted in a very much longer anæsthesia than the first.

In all cases where anæsthesia is not induced in less than one or one and a quarter minutes, or at the very most one and a half minutes, the reason is that air is being admitted to the inhaler or else not enough ethyl chloride is supplied. Since I have used Ormsby's inhaler I have never failed to induce anæsthesia, though in one or two cases it has been too short, and then the reason has been that I have not sprayed enough on. When using Breuer's inhaler I once or twice absolutely failed to induce anæsthesia and had to change to chloroform. Those administrators who use cones and compresses not infrequently confess to failures. I have not failed to anæsthetise alcoholics deeply with the Ormsby inhaler.

For continuation of anæsthesia I spray on two or three cubic centimetres every two or three minutes and allow air at fairly frequent intervals, according to the state of the patient; in fact, I give the drug much as I should ether, only, of course, less freely. Sometimes, to preserve full muscular relaxation one must abolish the conjunctival—or even corneal—reflex, especially for the first five or ten minutes; on the other hand, one may sometimes work throughout an operation with a brisk conjunctival reflex. The induction period is often startling in its rapidity if the breathing be free and deep, and I have known a patient to lose consciousness and not to flinch at a skin incision after six full breaths of ethyl chloride, or in 20 seconds.

I subjoin in tabular form the average figures of a number of cases taken from my note-books.

KELENE.

Single dose, from three to eight cubic centimetres, Ormsby's inhaler.

*77 Dental Cases.*

| | |
|---|---|
| Average duration of induction, 50·9 seconds. | Average duration of anæsthesia, 71·3 seconds. |
| Longest case of induction, 2½ minutes (a fault in administration). | Longest case of anæsthesia, 2½ minutes. |
| Shortest case of induction, 20 seconds. | Shortest case of anæsthesia, 3 seconds. |

*197 Adenoid or Adenoid and Tonsil Cases.*

| | |
|---|---|
| Average duration of induction, 51·9 seconds. | Average duration of anæsthesia, 64·64 seconds. |
| Longest case of induction, 2 minutes 10 seconds. | Longest case of anæsthesia, 2 minutes 30 seconds. |
| Shortest case of induction, 15 seconds. | Shortest case of anæsthesia, 20 seconds. |

*Dental and Throat Cases.*

Averages up to Dec. 9th, 1902.

| | |
|---|---|
| Average duration of induction, 51·4 seconds. | Average duration of anæsthesia, 67·97 seconds. |

The youngest patient, 11 months old, suffered from adenoids, and after 30 seconds' inhalation was anæsthetic for one and a half minutes.

Let us now compare the times taken in dental cases to produce deep anæsthesia by nitrous oxide, and the duration of that anæsthesia, with those of ethyl chloride. According to Hewitt, the average inhalation period of nitrous oxide is 55·9 seconds and the available anæsthesia is 30 seconds. Thus the induction period with ethyl chloride is shorter by five seconds, while the available anæsthesia is longer by 41 seconds. As compared with "gas" and oxygen, Hewitt states that the average period of administration is 110·5 seconds. Thus ethyl chloride has the advantage by 59·6 seconds. The average available period of anæsthesia by "gas" and oxygen is 44 seconds, which is exceeded in the case of ethyl chloride by 27·3 seconds. In these comparisons it must be remembered that my averages include both cases of light and deep anæsthesia. If I were to take average figures of the cases only in which I induced deep anæsthesia, the advantage would be much greater for ethyl chloride. In series of cases of removal of adenoids and tonsils at the Ear and Throat Hospital, it has been found, using ethyl chloride as the routine anæsthetic, that in an hour more than 12 cases

[10] THE LANCET, July 20th, 1901, p. 123.

can be operated on—e.g., 10 in 45 minutes and even six in 20 minutes, making a total for one morning 16 in 65 minutes. The posture I prefer for these cases is the recumbent one, the head being on a level with the body—that is, without a pillow under it, while the foot of the table is raised about 12 inches by means of blocks. In this position there is very much less tendency for blood to get into the larynx than in the horizontal posture and I do not think that the bleeding is seriously increased. Jansen's modification of Doyen's gag, previously inserted unopened, saves time afterwards in the case of children especially, though it is easy to put in a Mason's gag after removal of the inhaler.

With regard to the use of ethyl chloride for these operations, the general opinion of operators in this city who have had experience of it seems to be favourable. Mr. F. Marsh [11] in his recent Ingleby lectures says that "on the average about two minutes of anæsthesia and analgesia was obtained in 20 of his cases and that its advantages over 'gas' are the longer time given and the absence of congestion and cyanosis. Recovery from its influence is quite as rapid and the patients are able to walk back to bed. No troublesome after-effects occurred in my cases." It has been claimed for ethyl chloride that the condition of analgesia persists for an appreciable time after apparent return of consciousness. This condition, as far as I can judge, lasts after short operations for about from a quarter to half a minute or so after apparent return of consciousness and is much more marked than in the case of nitrous oxide.

It has been said that with ethyl chloride it is impossible often to obtain full muscular relaxation and hence the uselessness of the drug for reduction of fractures and other operations needing full muscular laxity. I find, however, that, with rare exceptions, with full anæsthesia the muscles are flaccid, though in one or two cases rigidity has persisted for a few minutes afterwards and in one case of operation on the foot I could not secure full muscular relaxation until a lapse of about eight minutes. The same thing occasionally happens with ether. I have had no chance of administering for the reduction of a dislocation and should be glad of one.

With regard to the after-effects the only ones that I have observed are headache and sickness and perhaps one very doubtful case of syncope. Headache is not very common and in my longest case, 26 minutes, was only slight, and lasted for about half a day. Sickness is decidedly more common and persistent than it is after nitrous oxide. Many patients, particularly if unprepared, vomit once on coming round. It has been claimed by some foreign observers that the after-effect of ethyl chloride narcosis is usually a feeling of well-being and even of hunger. The patients are able to eat within one hour or two hours after an ordinary administration. During recovery, particularly after short operations, the patient is rather more "fuddled" than after nitrous oxide, and any injudicious noise, talking, or restraint may lead sometimes to excitement, rarely forcible, for a minute. Marshall, in some 50 cases, noted two charges of indecent assault brought by patients as the noteworthy after-effect. Vomiting has only been severe in four of my cases. In the first one, a woman, aged 67 years, who had an aural polypus removed, vomiting did not begin till six hours after the operation, but it continued for 12 hours. The second patient was a delicate, nervous girl, to whom I gave ethyl chloride for an operation on the os calcis, lasting nine minutes. Afterwards she vomited at frequent intervals for 30 hours until she was given some albumin water, which, I am told, often lessens or stops post-anæsthetic sickness. This patient some months afterwards had ether, preceded by a little chloroform, for a second operation, and was again just as sick. On yet another occasion there was severe vomiting after another anæsthetic. In this case, then, it would seem that there was exceptional nervous or stomachic sensibility. In a third case, that of a boy, aged 13 years, who, after proper preparation, was anæsthetised for two minutes during operation on the foot, after-sickness and vomiting lasted for 24 hours. He was given chloroform on another occasion and was then just as sick. The fourth patient, a youth, aged 17 years, was given ethyl chloride, after the usual preparation, during four minutes for tenotomy and movement of the foot. He was sick for 12 hours. It is certain, I think, that the tendency to after-vomiting is much less than is the case with chloroform and ether, but is distinctly greater than with nitrous oxide.

With regard to the danger of ethyl chloride I have little to say, because I have seen none directly associated with it. There has been no such thing as syncope, respiratory or cardiac. The only difficulties which I have seen have been in mouth operations and were due to obstructions to respiration from blood in the throat or falling back of the tongue and were overcome by simple mechanical means. Cases of asphyxia and syncope have been described abroad.

Lately there has been used in France and advocated in this country by Dr. Rolland of Bordeaux a compound preparation called "somnoform." It is composed of 60 parts of chloride of ethyl, 35 parts of chloride of methyl, and 5 parts of bromide of ethyl. Its composition was decided by theoretical considerations, with a view to secure simplicity, rapidity of action, and elimination and safety. It is claimed that the diffusibility of methyl chloride, which evaporates at − 23° C., tends to quickness of action, while the chloride of ethyl prolongs anæsthesia and the ethyl bromide causes an after-analgesic state. I have tried this mixture in 11 cases and could find in its action no practical difference from that of ethyl chloride. My chief objection to it is that the ethyl bromide causes an unpleasant garlicky smell which pervades the room and also subjectively persists in the patient for one or two days afterwards.

Ethyl chloride would appear to be particularly advantageous in many short operations lasting up to ten or 15 minutes. Fromaget recommends it as preferable to chloroform in eye work, especially in paracentesis, iridectomy, peritomy, tenotomy, muscular advancement, enucleation, &c., and is particularly pleased with his results for operations on children. It has been used in gynæcological and obstetric work and also in large operations in general surgery. I have administered it for operations, among many others, on the tibia, 17½ minutes; on the hand (an old woman, aged 68 years), 18 minutes; for circumcisions, from five to ten minutes; for drainage of the knee-joint, ten minutes; for mammary adenomata and cysts, several cases; for enucleation of the eye, four cases; for strabismus operations, several cases; in an operation on an old sinus from the kidney, 18 minutes; and for excision of hydrocele, 11½ minutes. In the last case anæsthesia was induced in half a minute and was as good as with ether or chloroform. The patient recovered consciousness in from one and a half to two minutes after cessation of the administration, and the only after-effect was slight headache for a time. One hour after the operation he had pudding and milk for dinner. Thus, the advantage here, as compared with ether or chloroform, was probably very great. I should like to recount my rough notes on the longest case.

The patient was a woman, aged 26 years. The operation was on tuberculous bone in the foot. The patient was thin and dreadfully nervous, had a quick pulse, was of good colour, and had some cough. Nothing abnormal was found in the heart. The ethyl chloride was administered first in the anæsthetic room, from seven to eight cubic centimetres being sprayed on to an Ormsby's inhaler. Anæsthesia occurred in three-quarters of a minute. The patient was then wheeled into the theatre. Two or three cubic centimetres were sprayed on to the inhaler at intervals during the operation. During the cleansing of the foot light anæsthesia was kept up, the conjunctival reflex being brisk and the legs and arms being rigid. Then at the commencement of the operation deeper anæsthesia was induced, the conjunctival and corneal reflexes being abolished, the pupils moderately enlarged, the legs, arms, and fingers still rigid, and the latter flexed; there was no movement. Between the eighth and ninth minutes the limbs relaxed, the pupils contracted, and good anæsthesia continued, during which respiration was rapid (60) and the pulse also (120). The latter varied in quality from two to three ordinary beats being followed by a much smaller one. The tension of the ordinary beats seemed to be increased. Some frothy mucus was secreted and came from the mouth. As time went on lighter anæsthesia was used, slight phonation and the conjunctival reflex being allowed. Throughout the operation the face was flushed as if ether was being used. The administration lasted for 25 minutes, and about 25 cubic centimetres of the drug were used. Full anæsthesia lasted at least a minute after the removal of the inhaler. The patient retched as she was sent away on the ambulance and in the ward once vomited some frothy mucus. Afterwards there was no nausea or vomiting. In the afternoon she felt rather drowsy and complained of some frontal headache the rest of the day but slept well at night.

In dental work I have several times found ethyl chloride

[11] Marsh: THE LANCET, June 21st, 1902, p. 1751.

of the very greatest advantage—for example, in the following cases.

A big strong policeman came to have two or three teeth removed. One of the other anæsthetists at the Dental Hospital had previously tried to administer nitrous oxide. He just got the patient under but no more; the man came round before anything could be done. He was brought to see me. Having had one or two previous unsuccessful experiences of policemen as subjects for nitrous oxide I did not care to try it again, and as the usual alternative anæsthetic would have been nitrous oxide followed by ether, by no means a short or pleasant interruption in a busy morning at the Dental Hospital, more particularly as the patient was unprepared and wished to get back to duty soon, I decided to give him ethyl chloride. I put six or seven cubic centimetres on the Ormsby inhaler and after inhaling for one minute without a trace of excitement he was very deeply anæsthetised—i.e., his colour was heightened, his breathing was stertorous, the eyeballs were turned down, the pupils were enlarged, the conjunctival and corneal reflexes were absent, and the limbs and jaws were lax. Anæsthesia lasted more than one and a half minutes. The patient quietly recovered in another minute and in two or three more walked out of the room.

To take another case. A short, thickly built, heavy-jowled man of middle age, with thick and fat tissues about his neck and jaws, probably a beer-drinker, came into the anæsthetic room at the Dental Hospital suffering from a large dental abscess and marked trismus. By the way, it is important to remember in this type of patient that just as their tissues are outside so they are inside—that is to say, the tissues inside the mouth, naso-pharynx, and airway are fatty and thickened, thus narrowing the air passages. Again, the abscess bulged largely into his mouth, still more narrowing its cavity. Any congestion, cyanosis, or increased spasm caused by nitrous oxide would entail serious difficulty and danger during administration. Similarly, the increased circulation, congestion, mucus, rapid breathing, and spasm which ether would set up would tend to cause dangerous trouble with the respiration. In such a case, therefore, chloroform usually would be the chosen anæsthetic. Administration would be by no means a pleasant or an easy task in this unprepared patient. Having put a very small prop between the teeth, I gave him ethyl chloride, with a result almost exactly the same as in the last case. During the deep anæsthesia the jaw muscles became relaxed, Mason's gag was introduced, and not only the tooth causing the abscess but half a dozen others were deliberately removed during an anæsthesia of from one and a half to two minutes. There was no excitement or after-effect at all.

Yet another recent case. I was asked to give prolonged "gas" by Paterson's apparatus to a female patient for the extraction of eight or ten teeth. She had nasal obstruction and could breathe through the nose only slightly. I managed to get her under but could not keep her so, so she came round without anything having been done and was very much upset by the non-success. It is a great mistake, I think, in these cases to allow the patient to leave thinking that she cannot take an anæsthetic, because she would be fearful another time and believe that the administration was impossible or dangerous, so I proposed to give her ethyl chloride at once. She took it perfectly. We had a long anæsthesia of one and a half minutes, during which the operator did more than he originally proposed to do, and the patient recovered very well, though afterwards she suffered from some degree of shock, due largely, I think, to the previous failure.

There does not seem to be any more than one contra-indication to the administration of ethyl chloride. In marked narrowing about the larynx chloroform is better as being less stimulative. Patients with heart, lung, and kidney disease seem to take it well. In the case of children ethyl chloride is a perfect anæsthetic for small operations, such as opening abscesses, taking out teeth, especially the extraction of four six-year-old molars in a crowded mouth, and the removal of adenoids or tonsils. It is safe and rapid in its action and recovery in them is usually without after-effect, especially if they are properly prepared. It is practically impossible to give "gas" satisfactorily for any operation lasting more than a quarter of a minute in the mouth of small children. Not only do they become cyanosed and bleed so much that it is almost impossible to see what one is trying to do, but convulsion of the limbs and body is very awkward and recovery is exceedingly rapid. With ethyl chloride, however, there are none of these disadvantages.

Abroad, ethyl chloride is increasingly used in the so-called "mixed" anæsthesia—i.e., as preliminary to chloroformisation just as in England "gas" is often given before ether. Malherbe,[12] who has had an experience of 700 cases of ethyl chloride narcosis, says that by this method ethyl chloride suppresses the dangers of primary syncope under chloroform. Again, it much lessens shock and the quantity of chloroform used and also diminishes subsequent gastric troubles. I have often given ethyl chloride before ether and have had as good and often much better results than by the preliminary administration of "gas," but I have not used it as a forerunner of chloroform.

I have not tried ethyl chloride for the largest operations because I see no advantage in it over ether or chloroform, for one is working within narrow limits because of the tendency to quick return of consciousness. I do not think that very quick recovery (in one or two minutes) after big operations is an advantage to the patient, who would too often awake to the consciousness of acute pain, mental distress and shock, apart from the fact that his immediate surroundings and removal to bed would be, to say the least, most unpleasant. However, abroad, hernial, renal, and other operations have been done under ethyl chloride administered for well over an hour in the longest cases. It is well to recognise that all narcotic drugs have limitations, and ethyl chloride certainly has them, if one is to do the best for one's patient. I think, with many foreign observers, that it is well suited for many short operations lasting up to 15 or 20 minutes. Especially for short throat operations by skilled and quick operators, and for certain dental cases, is ethyl chloride of great advantage. As compared with ethyl bromide, which is much used abroad instead of "gas," ethyl chloride is safer because, as Binz says, the bromine compounds have a much more lasting and toxic effect on the tissues than the chlorine compounds. According to Overton[13] narcosis with chlorine derivatives can be kept up much longer than is the case with bromine compounds. This probably depends on the fact that watery solutions of bromine compounds gradually split up and give off free bromine. Certainly the death-rate is much less in ethyl chloride than in ethyl bromide. Again, ethyl bromide leaves behind it a garlicky smell and taste which persist in the patient's breath for one or two days after. The drug, too, is very liable to become impure on keeping.

In conclusion, with regard to the first and all-important question of safety, what I can say is that, having given ethyl chloride 450 times, I have never had any trouble during narcosis ascribable to the drug itself. I give it now with confidence and out of a total of more than 1000 cases last year of administrations in general, as apart from dental, surgery I have administered it about 350 times. I should judge that any serious effects would be seen first in the respiratory apparatus and secondarily in the heart. The general action on the circulation and respiration appears to be stimulative.

PS.—Since this paper was written I have brought up my total of administrations to more than 620 and have had little further noteworthy to record except that I administered it to a patient for removal of adenoids and tonsils immediately after recovery from fainting. The ethyl chloride greatly improved the colour and respiration, but just at the end of the administration, in order to be on the safe side, I added a dose of ether to the Ormsby's inhaler. I have lately been using ethyl chloride containing about 7 per cent. of methyl chloride. This addition probably has some advantage in quickening evaporation and carrying off ethyl chloride vapour. In regard to ethyl chloride in dental work, it is not to be preferred to nitrous oxide for routine use. It is of advantage in cases where the prolonged methods of administration are not available or the conditions are such as I have described in the cases related above. In dental work the passing over from ethyl chloride narcosis to that of ether is much quicker and easier than from that of nitrous oxide. If one and a half minutes' anæsthesia is not enough for the operator, an ounce of ether should be poured into the Ormsby's inhaler, which is quickly applied, and full narcosis will occur in two or three minutes. By giving a full dose of the drug one can always be sure of one and a half minutes' anæsthesia. By reason of the portability of the apparatus

[12] Loc. cit.
[13] Studien über die Narkose.

and the quickness of the phases of narcosis, ethyl chloride when administered from an Ormsby's inhaler is an ideal anæsthetic for short operations in country practice.

Birmingham.

ON SOME

# OPERATIONS FOR RECTIFYING CROOKED AND DEPRESSED NOSES.[1]

BY W. J. WALSHAM, F.R.C.S. ENG.,

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DURING the last 20 years I have had under observation a very large number of various external deformities of the nose. Some of the operations which I have devised and performed for their correction have not, as far as I know, been brought prominently before the notice of the profession.

## FORCIBLE STRAIGHTENING.

In THE LANCET of August 29th, 1891, p. 492, I described a nasal forceps that Messrs. Arnold and Sons had made for me for seizing the nasal bones and twisting them forcibly into position, but these can only be safely employed in recent or comparatively recent cases. When the injury is of long standing and the bones have become consolidated in the deformed position so much force is necessary to move them that there is a risk of severe laceration of the mucous membrane and tearing of the skin. Some further procedure is then usually necessary to allow of satisfactory replacement. In many of these cases of crooked nose it will be found that the deformity is not the result of a fracture of the nasal bones but of their bodily displacement at the fronto-nasal suture. On looking at the patient from the front this may not at first sight be evident, as the anterior or cartilaginous portion of the nose is generally at the same time deflected in the opposite direction, a slight protrusion occurring at the spot where the cartilages join the nasal bones. This protrusion frequently leads the patient to imagine that a fracture has occurred here. On examining the patient from above and behind it is seen clearly that the nasal bones are bent to one or other side at their junction with the frontal bone and at the same time slightly rotated on their long axis so that whilst the surface of one bone looks more upwards than normal the other one looks less upwards than normal. It will also be obvious that the slight protrusion above spoken of is caused by the angle of bending where the cartilages spring from the bones. On the side opposite the protrusion a corresponding slight depression will be found to exist. The deflection of the bones is frequently overlooked by those whose attention is directed to the cartilaginous part of the nose, which points in the opposite direction. On inspecting the interior of the nose the septum will, of course, be found to be deflected. For such cases forcible straightening is generally insufficient, but I have succeeded in many by supplementing the straightening by a subcutaneous osteotomy along the naso-maxillary suture.

## SUBCUTANEOUS OSTEOTOMY ALONG THE NASO-MAXILLARY SUTURE.

An incision, varying in length from an eighth to a quarter of an inch, is made through the skin along the course of the naso-maxillary suture down to the bone. Through this incision a small chisel, such as is used in mastoidectomy, is introduced and carried by a few taps with a mallet through the bone, care being taken not to puncture the mucous membrane. The bone incision is then prolonged sufficiently up and down along the course of the suture to detach the nasal bone from the nasal process of the superior maxilla, the chisel is withdrawn, and the small skin puncture is temporarily closed by a pad of aseptic gauze. The opposite nasal bone is then detached in a similar way. A stitch of the finest fishing-gut may be used for drawing the edges of the skin puncture together and the wound is sealed by a collodion gauze dressing. The delicate linear scar is practically invisible in a few weeks. The bones can be now easily bent into position either by the fingers or by the nasal forceps. When thus replaced they will retain their position, as a rule, without any special apparatus or may be steadied for a day or two by some form of light nasal truss.

A very good impromptu truss can be made by an ordinary pair of forceps and a roller bandage. A piece of rubber tube about half an inch long is slid over both blades of the forceps so as to compress their ends together—the amount of pressure to be exercised by the ends on the bones or cartilages being regulated by the distance the rubber ring is passed down over the forceps. The blades, protected by rubber, are then placed one on each side of the nose over the nasal bones or cartilages. The pressure exercised by the rubber should be just sufficient to grasp the bones gently and to steady them in position. A pad of lint is next placed on the forehead just above the glabella to protect the skin and the forceps are bound down to this by a strip of adhesive strapping. Under the upper end of the forceps a second pad is placed of sufficient thickness to tilt the ends grasping the nasal bones downwards far enough to insure a good hold. The arrangement is next secured firmly in position by a roller bandage. It need not be worn for more than a day or two, as after the first few hours there is little fear of the bones becoming displaced, since consolidation takes place very rapidly.

A somewhat similar osteotomy I have found useful in diminishing the breadth of the flattened nose before resorting to the injection of paraffin for restoring the bridge, but in such cases some tying of the bones together by the subcutaneous suture or by wiring will generally be also required.

## SUBCUTANEOUS SUTURE OF THE LATERAL NASAL CARTILAGES.

In slight degrees of depression of the cartilages the result of injury or disease the flattened bridge can be materially sharpened by this method. A straight needle armed with fine kangaroo tendon is passed through the skin and the depressed cartilages just below their junction with the nasal bones and brought out through the skin on the opposite side. A curved needle is now substituted for the straight one, introduced through the same puncture, carried about a quarter of an inch downwards between the skin and cartilage, and then made to perforate the skin. The straight needle is again employed to carry the suture through the second puncture and across the nose through the depressed cartilages and is brought out at a corresponding spot on the opposite side. A loop of suture is thus left on one side of the nose between the skin and corresponding cartilage. By a similar manœuvre the suture is brought out through the first puncture. The suture is next drawn tight bringing the cartilages together, and the knot is buried at the first puncture. In passing the suture the mucous membrane should not be perforated if it can possibly be avoided and care should be taken that no portion of the deeper layers of the skin is involved or some puckering of the skin at the seat of the puncture will be produced. The punctures are closed by collodion. In many cases a subcutaneous osteotomy of the nasal bones will be found necessary at the same time.

## WIRING THE CARTILAGES TO THE NASAL BONES.

When the depression of the cartilages at their junction with the nasal bones is such that the ends of the nasal bones project under the skin subcutaneous suture will not as a rule be sufficient. For such I have obtained the happiest results by wiring the cartilages to the bones. An incision is made exactly in the centre of the nose in a vertical direction, beginning about half an inch above the ends of the bones and continued for half an inch or more over the cartilages. The sides of the skin incision are carefully dissected up from the bones and cartilages for a good half-inch on each side. With a sharp knife the cartilages are next divided transversely along the line of the osteo-cartilaginous junction, avoiding perforation of the mucous membrane. If the cartilages can now be brought up to the level of the bones well and good; if not the projecting ends of the bones may be snipped off with fine bone scissors. The end of each bone is now perforated with a small bone-drill and a fine silver wire suture is passed through the hole thus made with a curved needle, which is then made to perforate the corresponding cartilage from within outwards. On twisting the loop the cartilage will be drawn up into place. The opposite side is now treated in the same way, the ends of the wire are securely beaten down, and the external wound is closed with the finest fishing-gut sutures and sealed with a collodion gauze dressing. In this way I was recently successful in curing the most hideous deformity in a lady who had

[1] An abstract of a clinical lecture delivered at St. Bartholomew's Hospital on Feb. 11th, 1903.

literally smashed her nose in a severe fall from a height. The ends of the nasal bones projected beneath the stretched and reddened skin and threatened to protrude (Fig. 1). The

FIG. 1.

Before wiring.

FIG. 2.

After wiring.

cartilages were depressed a good quarter of an inch below the level of the bones and their distal ends were tilted upwards so that the nostril looked almost directly forwards. The profile of the nose was so revolting that the patient could not venture out without wearing a thick veil. I performed the operation above described and succeeded in fixing the cartilages in an excellent position. A temporary suture having a subcutaneous loop on one side was passed through the cartilages and tied over a piece of rubber tube on the other for the purpose of drawing the cartilages together and so sharpening the bridge whilst consolidation was taking place. The wound healed by first intention. The temporary suture was removed on the fifth day and the result was so satisfactory (see Fig. 2) that the patient did not think it worth while to have the very slight depression that remained obliterated by the injection of paraffin. When last seen the parts had consolidated firmly without any sinking down of the nasal ridge.

### INJECTION OF PARAFFIN SUBCUTANEOUSLY.

So much has been written of late on this subject that it need not be referred to further than to say that I have kept the cases on which I have thus operated under observation and have found that the improvement remains. The part filled with the paraffin has gradually hardened and the improved appearance of the nose continues as good as it was the day after the injection. I commenced this treatment just after the first account of it was made known in this country but have not published my cases as I wished to learn first how the method would stand the test of time. This is an important element in all cases of new methods of treatment; for instance, I know of several cases in which great improvement was accomplished by transplanting bone, inserting gold plates, &c., but the improvement was not maintained. The nose again fell in and in the case of the plates so much irritation was set up that they had ultimately to be removed.

### SHIFTING THE SEPTUM BODILY AT ITS JUNCTION WITH THE FLOOR OF THE NOSE.

In some cases of crooked nose it will be found that the whole septum is fixed to the nasal floor out of the median line. This is perhaps more especially so in patients who have been the subject of complete hare-lip or who have undergone no operation, or an imperfect operation, for this deformity. In a patient, aged 15 years, on whom I operated a year or so ago an attempt had been made in infancy to cure the hare-lip, but this had failed and nothing further had been done. When she came under my observation there was a very wide cleft of the lip on the left side extending through the alveolar process of the maxilla into the nose and the nasal septum was a quarter of an inch or so to the right of the middle line. Before closing the cleft in the lip I first turned back the right half of the lip, exposing the right nasal cavity as well as the left, and then with strong bone scissors I detached the maxillary crest from the floor of the nose. The septum could now be carried over to the left and was fixed in the middle line by sutures. In this way the nostrils were equalised and the nose was brought over to the straight in its anterior half. An osteotomy was at the same time necessary to correct the deflection of the nasal bones. Subsequently the gap in the lip was closed in the ordinary way and the shape of the nostril was improved by a plastic operation on the left ala and the patient after a prolonged stay in the hospital was discharged with a most satisfactory lip and nose. The improvement was very great. In another patient the hare-lip had been fairly satisfactorily united in infancy, but the septum remained too much to the left and the nose in consequence projected to that side. Here I turned up the upper lip after the manner of Rouges's operation and having exposed the septum cut it with the maxillary crest from the maxillary bones with strong bone scissors. The whole septum with the anterior part of the nose could now be carried over to the right where it was easily held by a plug in the left nostril. As far as I know this method of transplating the bone of the septum has not been hitherto employed. Anyhow, I have not seen any account of it, but I would recommend it strongly to surgeons as a very desirable measure in similar cases.

### FORMATION OF A SEPTUM FROM THE MAXILLARY CREST.

Where the whole septum has been destroyed as the result of ulceration together with the anterior part of the nose one of the difficulties to be contended with is to give firmness and rigidity to the restored organ, whether the flaps are taken from the forehead, cheeks, or arm. I remember many years ago an endeavour was made by my colleague, Sir Thomas Smith, to obtain this firmness by first transplanting a portion of the cartilage of the ear into the flap of skin it was subsequently intended to employ for the new nose. This, however, was before the days of antiseptics and the attempt unfortunately failed. I have recently manufactured a septum by turning up the maxillary crest. The patient had lost the whole of his septum and about a third of the anterior part of his nose, his nasal cavities thus being converted into a huge gaping chasm. I made two parallel cuts through the mucous membrane down to the bone about half an inch apart along each side of the maxillary crest and as far back as I could reach, a cross cut uniting the parallel incisions. A small mastoid chisel was next introduced obliquely into each incision, the maxillary crest was detached from the underlying bone and bent forwards with the overlying mucous membrane which in front served as a hinge and carried to the detached bone its blood-supply. The septum thus made was attached above by temporary sutures to the remaining skin of the nose and further held in position until consolidation in the new portion was complete by a piece of rubber tube passed behind it with the ends of the tube fixed on the face. The bone remained in position, thus forming a new columella. Later I intend to restore the nose still further by transplanting a skin flap. Without the new septum this would have been flabby, unsupported, and liable in time to sink in, but I hope now this will ultimately form a very respectable nose. It seems to me there are many possibilities of restoring the septum from the maxillary crest or even from a piece, if necessary, of the whole thickness of the hard palate, and I have no doubt that further attempts will be made to utilise this bone. The case is not yet complete but bids fair to be a marked success.

Harley-street, W.

## ON THE USE OF IODIPIN IN CASES OF UTERINE FIBROID.

BY JOHN A. SHAW-MACKENZIE, M.D. LOND.

IODIPIN is, as I understand, a combination of iodine and sesame oil. It has been introduced by Messrs. Merck of Darmstadt, it is said to be an efficient substitute for iodide of potassium generally, and, according to all accounts, it causes no disagreeable effects. Having long taken an interest in the medicinal treatment of uterine fibroids I am fully aware that good authorities have recommended iodide of potassium as producing at least amelioration of the symptoms and that Dr. Samuel Ashwell[1] and others in the past have recommended iodine as producing arrest of growth, diminution, and sometimes disappearance. I therefore wrote in November last to Messrs. Merck asking for special information as to the use of iodipin in uterine fibroid and

[1] Diseases of Women, 1845. On the Diminution and Disappearance of Uterine Tumours, THE LANCET, Feb. 18th, 1854, p. 180.

menorrhagia, but was informed that so far as they knew it had not been used in such conditions. I have since had opportunities of treating two cases by the hypodermic method of administration and not having so far heard of or seen any reports of cases similarly treated I venture to record the following notes.

The first patient was under the care of Dr. John Shaw at the North-West London Hospital and I am much indebted to him for the help and opportunity which he gave me. She was 33 years of age and attended as an out-patient on Dec. 10th, 1902. A large, moveable, somewhat elastic tumour, presumably a fibroid, extended to an inch above the umbilicus and the abdominal wall was tightly stretched over it. On a subsequent occasion the uterine sound passed three and a half inches and the mass appeared to move with it. She had been married for five years but had never been pregnant and from the first this condition was excluded. Her father died early from pulmonary tuberculosis. Her mother and two sisters were stated to have suffered from fibroid. A small lump was first noticed by the patient two and a half years ago. She complained of constant loss of blood "all the month round," the first few days of the period being profuse. The os uteri and cervix were healthy and high up, the tumour itself being largely abdominal. After explaining what treatment was proposed, to which she readily consented, one cubic centimetre of iodipin (25 per cent. strength) was injected into the cellular tissue of the buttock. On the 17th, as there was still some loss of blood, two cubic centimetres were injected on the other side. On the 31st it was stated that there had been no hæmorrhage for a fortnight. Three cubic centimetres were injected, the injections being made alternately into either buttock. On Jan. 7th it was stated that there had been no loss of blood for three weeks and the tumour was found to be diminished to a finger's breadth below the umbilicus. On Jan. 21st she stated that the period began on the 7th and lasted for eight days, the first two days being free. The tumour was on this day well below the umbilicus. Five cubic centimetres were injected and after this date seven cubic centimetres were injected twice a week. On Jan. 28th a period began. The tumour was swollen and had risen to just below the umbilicus. On Feb. 11th there was obvious uniform reduction of the tumour; it felt softer and a sulcus could be felt at the fundus. On the 25th the tumour was again swollen to just below the umbilicus. Ten cubic centimetres of iodipin (10 per cent. strength) were injected and the injections were continued twice a week. On March 4th she stated that a period began on the 1st but was very slight; it lasted for six days. The tumour was again obviously reduced. On the 11th the tumour was again found to be swollen to within an inch of the umbilicus. On the 18th it was stated that a period began two days before but the loss was slight. The sulcus at the fundus was an inch below the umbilicus, but the two sides were nearly on a level with it. The tumour, however, seemed to be flatter and softer and the abdominal wall could be easily raised up from its surface. Ten cubic centimetres (25 per cent. strength) were injected.

The full dose of iodipin is stated to be ten cubic centimetres (25 per cent. strength) for ten days consecutively. No local or general inconvenience whatever has in this case followed the injections which were given with due regard to antiseptic precautions. All that, so far, can be said is that there has certainly been an improvement in the patient's general health and that there has been some improvement as regards the loss of blood with encouraging intervals. The tumour has at times shown considerable reduction in size, but this was not maintained, though the maximum had not reached the original size before the treatment was commenced. Pain was complained of at times but the patient was not laid up or much inconvenienced. It is agreed that there is no indication for operative interference and the treatment is to be continued a little longer.

The second patient was unmarried and under 40 years of age. When I was called to see her on Dec. 21st, 1902, she was in much pain which was referred to the left inguinal region. Her tongue was coated, her temperature was 101° F., and there was inability to retain food. The bowels were stated not to have acted for several days. A large hard mass, evidently uterine, was found reaching to an inch above the umbilicus. She stated that she was losing blood freely and passing large clots. For some long time she had been laid up at the menstrual periods with profuse losses. Enemata were ordered and on the next morning the bowels had been relieved, her temperature was normal, and she expressed herself as quite comfortable. On Dec. 30th, the period being just over, Mr. Skene Keith kindly visited her with me. He diagnosed a freely moveable fibroid (with outgrowths) and extending well into the pelvis, but not fixed or pressing on the bowel. The cervix was small and healthy, with the tumour above moving with it and reaching to the level of the umbilicus. He agreed with me that there was no indication for operation and consented to a trial of iodipin being made. (I should mention that someone else had a few days before, and independently of me, diagnosed a large fibroid and had recommended its removal.) On Jan. 1st, 1903, I commenced injections of two cubic centimetres of iodopin (25 per cent. strength) into the cellular tissue of the buttock and continued injections daily for ten days on alternate sides, doubling the dose on the fifth day. As the first insertion of the needle caused pain, on subsequent occasions I first applied a piece of ice to the surface which proved perfectly satisfactory. On the 6th the tumour was two fingers' breadth below the umbilicus. A right lobe was now easily defined to the right of, and below, the umbilicus. Not knowing how much or how little might be expected of the iodipin I prescribed also teaspoonful doses of Gardner's syrup of hydriodic acid three times a day and four cubic centimetres of iodipin were now injected. On the 8th the main mass of the tumour had diminished astonishingly. A sulcus could be felt between it and a smaller lobe to the left. On the 10th the patient went out of town feeling very well. On the 19th she returned; the tumour was then swollen to about two fingers' breadth below the umbilicus and both lobes were enlarged. Six cubic centimetres of iodipin were injected and the injections were continued twice a week until March 10th. On Jan. 20th the period commenced without notice or pain. The loss of blood on the first day was said to be free but without clots. Numerous superficial blue veins were perceptible over the buttocks and there were slight cough and hoarseness. The bowels also were troublesome. The insertion of the needle on this day drew a drop or two of blood and all the previous punctures were congested with slightly bruised areas. On the 23rd the patient said that she could hardly recollect having previously had such an easy time. She had no pain and no loss of blood worth mentioning. It ceased on the 25th. On the 27th Mr. Skene Keith kindly visited her again and reported that the tumour was less by one-third than at his previous visit and that it was quite two and a half inches from the umbilicus. There was no dropping into the pelvis to account for the diminution. On Feb. 7th the right lobe seemed to be quite an isolated small oval moveable tumour. The main mass could only be felt on deep palpation above the pubes. On Feb. 21st a period began. The tumour was slightly swollen but less so than at the last period. The same local and general vaso-motor condition was present. There were no pain and only a slight loss of blood lasting four days, the patient going about all the time. On March 10th she went out of town and on the 17th she returned in excellent health. The tumour and the lobe could still be felt but deep palpation was required to make them out. Six cubic centimetres of iodipin were injected. The patient is now going abroad for a time.

Hildebrandt[2] noted in his cases in which ergotin injections were used that the needle drew blood at the menstrual periods. Both these cases of his and this one of mine conform probably to those cases of vaso-motor origin noted by Strassmann and referred to by Dr. Thomas Wilson.[3] There was no cardiac complication in this case. The case itself seems to be in marked contrast to the preceding one, in which there is no particular general periodical vaso-motor disturbance. Possibly iodine may influence the vaso-motor or trophic centres themselves, in addition to its presumable action on the muscle element and nutrient vessels. No particular local or general inconvenience has followed the injections or treatment. At one time there were some slight induration and tenderness at the site of the puncture, but they soon passed off. Neither have there been any of the disagreeable effects often associated with the administration of iodide of potassium. An irritating dry patchy eczema appeared on Feb. 25th, continuing more or less, and some darkish stains, lasting a day or two but disappearing without trouble, recently showed themselves. The treatment is a continuation of the older iodine one, only, as it seems to

[2] Berliner Klinische Wochenschrift, 1872. (W. H. Ranking: Abstract of the Medical Sciences, 1872.)

[3] The Relations of Organic Affections of the Heart to Fibro-myoma. Transactions of the Obstetrical Society, vol. xlii., 1901.

me, by a more convenient, rapid, and direct method of administration of the drug. It does not confine the patient to bed or the house, nor is there apparently any disagreeable effect. The cases are only two in number and sufficient time has not elapsed for forming a proper conclusion, but I publish them in the hope that others may be induced to put such a simple method to the test before resorting to operation.

Grosvenor-street, W.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### A CASE OF OPERATION FOR ACUTE HÆMATEMESIS.

BY ARTHUR H. BUCK, F.R.C.S. EDIN.,
ASSISTANT SURGEON TO THE SUSSEX COUNTY HOSPITAL.

As operations for acute hæmatemesis are still comparatively rare the following may be thought worth recording.

The patient, who was a woman, aged 39 years, had suffered from heaviness and fulness in the epigastrium after food off and on for six months. She had experienced nausea but was not sick. There was no history of melæna. Dr. F. Robson of Haywards Heath saw her first on Jan. 21st, 1903, when she had vomited one pint of blood and was collapsed. Adrenalin was administered by the mouth and rectal feeding was ordered. On the 22nd there were repeated attacks of hæmatemesis and much melæna. Ergotinin and adrenalin were given. On the 23rd further hæmatemesis took place and I saw the patient in the evening with Dr. Robson. Her condition was then one of collapse and she had lost over six pints of blood by measurement in two and a half days. After a consultation with Mr. G. C. Clarke of Lindfield and Dr. Robson an operation was agreed upon for the following reasons: (1) that it was not a proper thing in her condition to advise removal to the Sussex County Hospital; (2) that judging from the repeated attacks of hæmatemesis there was likely to be another; and (3) that to a patient already *in extremis* another attack was likely to prove fatal before assistance could be obtained. The difficulties of the situation were increased by the patient living in a cottage and by the only light being that of a paraffin lamp.

The stomach was opened by a vertical incision anteriorly, as no ulcer could be felt from outside, and the ulcer was found at the cardiac end on the posterior wall by sweeping the finger round the mucous membrane. It was brought into view with some difficulty and proved to be acute, with no thickening around the edges. The diseased area having been excised the aperture was closed posteriorly by a purse-string suture and one or two Lembert's sutures on the peritoneal aspect and anteriorly by a second purse-string suture in the mucous membrane. The anterior incision was closed with Lembert's sutures. Mr. Clarke administered the anæsthetic. The patient was put back to bed apparently no worse for the operation. Dr. Robson, who conducted the entire after-treatment, at first administered strychnine and saline injections and afterwards fairly large nutrient enemata were given, about two pints a day being absorbed. The services of an excellent nurse were obtained on the second day. On the thirteenth day—namely, three days after the first food had been given by the mouth—a somewhat severe attack of parotitis set in on the right side followed by one on the left side. Except during this attack and for some little time afterwards the temperature was normal. The patient, when seen on March 20th, was perfectly well in every way.

The following statistics are quoted from Mayo Robson and Moynihan's "Surgery of the Stomach": A series of 26 operations in acute cases showed 14 deaths and a series of 19 in chronic cases showed two deaths (Hunterian Lectures). A later series in America showed 13 deaths in 32 acute cases and six deaths in 31 chronic cases. Mr. B. G. A. Moynihan in a paper read before the Royal Medical and Chirurgical Society on Jan. 27th, 1903, and published in THE LANCET of Jan. 31st, p. 294, divides the cases of hæmatemesis into those the result of acute and those the result of chronic ulceration and says: "In hæmorrhage from an acute ulcer medical treatment alone will suffice, surgical measures will very rarely be necessary. If any operation has to be done gastro-enterostomy will probably prove to be the most effective. In chronic ulcer operation should be advised as early as possible." So far as my experience goes I should have said that it was hardly safe to be quite so dogmatic, as besides the above case I have recently come across a case where a girl with a chronic history suddenly died from profuse hæmorrhage from a chronic ulcer. Other cases of perforation have come under my observation where it was quite impossible from the history to say whether the ulcer was acute or chronic before operation. An operation for acute hæmatemesis, whether from an acute or chronic ulcer, seems to me to be an emergency operation in which one would not feel satisfied unless one performed that for which the operation was undertaken and secured the bleeding point. As to whether a gastro-enterostomy was advisable then or later would, I suppose, depend upon the condition of the patient at the time, both generally and locally, and upon the past history of dyspepsia.

Brighton.

### A CASE OF IODOFORM POISONING.

BY ALAN H. MUIR, M.B., CH.B. GLASG.,
HOUSE SURGEON TO THE SWANSEA GENERAL HOSPITAL.

THE patient, a man, aged 35 years, was admitted to the Swansea General Hospital on March 5th, 1903, with a large non-tuberculous abscess on the calf and the thigh of the left leg. The temperature was 102° F., the pulse was 100, and the general condition was fair. On the 6th the temperature ranged from 98° to 99°. On the morning of the 7th I opened the abscess, irrigated the cavity, and put in a connecting drainage-tube. Whilst my assistant was putting in iodoform quite half an ounce or more dropped accidentally into the large cavity. For 24 hours the temperature remained normal. At 8 P.M. on the 8th the patient had a rigor, when the temperature rose to 102°, and two hours afterwards it was 104°, the pulse being 140 and weak and thready and the respirations being 24 and normal in character. The patient, who now became restless and delirious but remained conscious, vomited three or four times. Nothing noteworthy regarding the pupils, the urine, &c., was observed. Quinine and brandy were now administered and at 12 midnight when the temperature was 103° the cavity was washed and swabbed out, the iodoform forming quite a coat. In 12 hours the temperature, which had come down gradually, was normal, the pulse was 120 and fair, and the patient was quiet and sensible. This condition was maintained, the temperature remaining normal, the pulse being 80 and good, and the respirations being 24.

For permission to publish these notes I am indebted to Mr. W. F. Brook, senior surgeon to the Swansea General Hospital.

Swansea.

### A CASE OF CHYLIFORM ASCITES.

BY GEORGE A. CLARKSON, F.R.C.S. ENG.

IN connexion with the annotation on chyliform ascites published in THE LANCET of March 21st, p. 825, the notes of the following case, which came under my immediate observation while I was house physician to St. George's Hospital, may not be without interest.

The patient was a man, aged 52 years, who was admitted to St. George's Hospital on Dec. 7th, 1895, suffering from carcinoma of the liver. His previous history was unimportant and his health had only begun to fail nine weeks previously. On admission the pinched aspect of the man and the yellowish pallor of his skin were very noticeable but there was no jaundice. The abdomen was protuberant and was specially enlarged in the upper part, where over the region of the liver irregular rounded projections could even be seen. There was a considerable amount of fluid in the abdomen. The liver was greatly enlarged, reaching fully two inches below the umbilicus. It was hard and was raised into a number of nodulated projections. The abdominal walls were covered with enlarged veins, especially marked in the flanks. The urine contained lithates but no bile or albumin. Emaciation and loss of strength were rapid but the pain was

never very severe. By Dec. 26th the abdomen was so distended with fluid and the breathing had become so embarrassed that paracentesis was performed and ten pints of yellow milk-like fluid were removed, but without any very great relief, and the man died six days later.

The fluid removed was yellow in colour and of a milk-like character; it had a specific gravity of 1018 and gave an alkaline reaction. On standing a pinkish gelatinous clot was formed. Microscopically the fluid showed the presence of a large amount of fat in the form of an emulsion and also numerous cells containing fat in their interior. When shaken up with ether, fat was dissolved out and the ether left a greasy stain when dropped on paper.

At the necropsy, when the abdomen was opened, three pints of milky-looking fluid were found in the peritoneal cavity. There was no peritonitis. The glands in the mesentery were welded together with new growth and there was a large mass of growth behind the stomach almost encircling the aorta. The liver, together with some masses of glands, weighed 13 pounds. It was full of firm growths in the form of rounded lumps rising to the size of Tangerine oranges. On the surface they were slightly cupped from contraction. There was very little liver substance left uninvaded by growths. The left pleural cavity was half full of chyliform fluid similar to that in the abdomen. The right pleural cavity contained a similar amount of clear serum. With regard to the fluid in the abdomen, no special leakage could be discovered, but the receptaculum chyli and thoracic duct must have been implicated by growth which was very extensive in front of the first and second lumbar vertebræ. No special cause could be found to account for the milk-like fluid in the left pleura. Microscopically the growth was a spheroidal-celled carcinoma.

Leicester.

# A Mirror
OF
# HOSPITAL PRACTICE,
## BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. v., Proœmium.

## BATH ROYAL UNITED HOSPITAL.

### A CASE OF ACUTE ENTERIC INTUSSUSCEPTION CAUSED BY THE INVAGINATION OF MECKEL'S DIVERTICULUM; OPERATION; RECOVERY.

(Under the care of Mr. H. G. TERRY.)

FOR the notes of the case we are indebted to Mr. J. Beattie Dunlop, house surgeon.

A schoolboy, aged 12 years, was admitted into the Bath Royal United Hospital on Dec. 16th, 1902, at about 9 P.M. The history of the case was that the boy had been quite well on that day until noon when he made a hearty dinner, but during it was seized with some abdominal discomfort. He returned to school at 1.30 P.M., but while there he had such severe attacks of pain in his abdomen that he was sent home. Here his pain was thought to be due to indigestion and he was given peppermint water. As his condition did not improve Mr. E. L. Hunt, of Sherston, was sent for and he arrived about 4 P.M. He found the boy crying from pain and rolling from side to side. The patient's temperature was 96·5° F. and his pulse was 60. His pain was found to be most acute below and to the right of the umbilicus and there a sausage-shaped tumour could be palpated three or four inches long and running up towards the liver. He had been vomiting partially digested food and had passed a loose watery motion containing blood. Mr. Hunt diagnosed acute intussusception and sent him straightway to hospital—a drive of over 18 miles.

On admission the boy's facies was not anxious. From time to time he had bouts of pain which were referred to the region below and to the right of the umbilicus. His temperature was 99° and his pulse was 60 and small in volume. The abdominal wall was slack and moved with respiration. There was very little distension. On palpation a sausage-shaped tumour was to be felt extending from the right iliac fossa to the right subcostal margin. It was firm, moveable, growing harder during the paroxysms of pain, and varying in size from time to time. Manipulation tended to make it smaller. Per rectum a tense swelling could be found in the right iliac fossa. Mr. Hunt's diagnosis was corroborated and operation was decided on at once.

The abdomen was accordingly opened to the right of the median line by Mr. Terry and an intussusception of the ileum forthwith presented itself. The tumour was 12 inches in length; it was tense, shining, cherry-red in colour, and the mesentery was twisted. Reduction was effected gradually and it was then seen that the intussusceptum was black in colour and that there was free fluid between the middle and internal layers. The blackness was dispelled gradually as reduction proceeded. At the end of the reduction, however, the apex of the intussusceptum gave way and was then found to consist of Meckel's diverticulum. The diverticulum was almost six inches in length and was swollen to the diameter of the small bowel, invaginated, and sloughing. Its invagination had evidently caused the intussusception of the ileum. This troublesome appendage was thereupon amputated at its junction with the bowel and the edges of the opening thus left were brought together by means of two layers of Lembert's sutures. The abdomen was then sown up layer by layer. The boy bore the operation exceedingly well. On the next day he passed blood and flatus three times, and thenceforth made steady progress, his recovery, however, being somewhat delayed by the skin giving way, though the rest of the abdominal wall held well. He was discharged cured on Feb. 6th.

*Remarks by* Mr. DUNLOP.—The above case is of interest from its bearing on the etiology of enteric intussusception. I must express my thanks to Mr. Terry for his kind permission to record this case, and to Mr. Hunt for the exceedingly good history which he sent us of it.

# Medical Societies.

## CLINICAL SOCIETY OF LONDON.

*Acromegaly.—Bilharziosis.—Surgical Treatment of Gangrenous Bowel in Herniotomy.*

A MEETING of this society was held on March 27th, Mr. HOWARD MARSH, the President, being in the chair.

Dr. H. A. LEDIARD (Carlisle) read a paper on a case of Acromegaly and Goitre. The patient was a woman, aged 43 years, who was born and had always lived in Cumberland. She had had amenorrhœa and headache dating from the last confinement, ten years previously. The features were characteristic, especially the lips, nose, lower jaw, and tongue, as were also the speech and expression of the face. The thorax was large, the ribs being massive and the hands being broadened. Sugar had been at one time present in the urine. For some years a bilateral goitre had been evident, but in June, 1902, the patient was sent to the Cumberland Infirmary for operation on account of dyspnœa with stridor and dysphagia due to pressure. The left side of the goitre was then removed and all these symptoms were relieved. The patient was exhibited to the society and her feeble muscular power was demonstrated. Radiographs of the hands and other parts were exhibited, together with the goitre which had been removed and microscopic slides. The usual features of acromegaly not present in this case were kyphosis, bi-temporal hemianopsia, sweating, and cyanosis. There was no trace of the general increase in size sometimes present, but the features of the face and the limbs were so greatly enlarged that the patient could not be recognised by her relatives and the muscular power was feeble.—Dr. W. PASTEUR asked whether the operation had in any way modified the character of the acromegalic condition.—Dr. LEDIARD, in reply, stated that there had been no change in the pulse or temperature since the operation, but the patient had gained several pounds in weight.

Dr. ANDREW DUNCAN read the notes of a case of Bilharziosis. The patient was a man, aged 30 years, lately in the 2nd Battalion East Kent Regiment. He had been fighting in the Orange River and Cape Colonies and was in Lord Roberts's march to Pretoria. In May, 1902, he began to experience

itching at the end of the penis and a frequent desire to urinate, with great straining, but had at this time no hæmaturia. He also had a lump in the left groin and great pain in the lower part of the back. The lump after rest went away. He returned to England in June, 1902, and on arrival first noticed a small clot of blood in his urine. Previously to the appearance of this he had severe pain and burning in the urethra. In July, there being a decided increase in the hæmaturia, he went into a country hospital and was there sounded for stone and examined by the Roentgen rays. During this time also growths appeared around the anus, for which mercury was prescribed on the supposition that they were specific. In January, 1903, the case was seen and at once recognised as one of bilharziosis by Mr. James Cantlie who sent him to the Branch Seamen's Hospital, where he was admitted under the care of Dr. Duncan. On admission the patient was anæmic and the urine contained blood, mucus, a small amount of albumin, and numerous ova of bilharzia. In the perineum there was a slight swelling over the raphé which disappeared after being fomented. There were three growths round the anus; one was conical and about half an inch in diameter and the other two were flattened with broad bases of half an inch. These on removal were seen to be papillomatous swellings stuffed with the ova of the bilharzia. The fæces passed by the patient were found to contain ova. There were no evidences of any growths in the rectum as far as the finger could reach. With regard to the ova passed by the rectum, according to Lancarol's teaching, the spines of these when occurring in the intestinal veins were always lateral, in contra-distinction to the terminal spines of the ova in the vesical veins. This, however, was not an invariable rule. Lieutenant P. S. Lelean, R.A.M.C., in his paper read last year before the Medical Society of London, stated that he had found rectal ova with terminal, and vesical ova with lateral, spines. In the treatment of this disease great difficulty had always been experienced; Dr. Guillemard went so far as to say that all treatment was useless. However, Lieutenant Lelean had drawn attention to the great benefit exercised by methylene blue given in four-grain doses three times daily. He had found that ova died in less than 15 minutes when the stain was run under the cover glass. Dr. Duncan's patient had been treated according to Lieutenant Lelean's directions, but up to the present time there had been no appreciable difference in the amount of the hæmaturia; the deposit in the urine glass seemed less, but the colour of the urine was the same. For the first few days after his admission and before the methylene blue was administered the patient had been given tabloids of suprarenal extract but without any effect. Dr. Duncan now proposed to try liquid extract of male fern, as suggested by Mr. H. M. N. Milton of Cairo.—Dr. PATRICK MANSON remarked that condylomatous growths outside the anus were quite unusual, though internal growths were frequent in the rectum. The growths in the skin on the outside of the thighs in this case were also unusual; these also probably contained bilharzia. The lumps in the perineum were met with occasionally and their occurrence should be remembered by surgeons. The deposit of bilharzia at a distance from the normal habitat of the parasite was an interesting fact. Dr. Manson endorsed the statement that the bilharzia ova discharged from the bladder usually presented a terminal spine, though in certain cases the ova discharged from the rectum presented a lateral spine. He was inclined to believe that these two kinds represented two different species of the parasite. Treatment was most unsatisfactory and any new suggestion was an advantage.—Dr. W. P. HERRINGHAM, referring to the source of infection, asked why in bathing the worms should get into the portal vein.—Dr. PASTEUR asked what was the usual prognosis in this disease and referred to a case which had been sent to him as a case of renal calculus in which the patient eventually made a complete recovery without any special treatment.—Dr. H. BATTY SHAW remarked that the Boers in some districts of South Africa were well aware that the drinking of the water of certain streams was sure to produce bilharziosis.—Dr. DUNCAN, in reply, remarked that lateral spines had been found in bilharzia from the bladder. He believed that the disease was produced by drinking water which was contaminated. He had not yet seen a case in which treatment did any good.

Mr. G. H. MAKINS read the notes of two cases illustrating the employment of Invagination and Stitching over Gangrenous Patches of Intestine in the Treatment of Strangulated Hernia. The first case was that of a man, aged 87 years, who for 16 years had been the subject of an irreducible right inguinal hernia. The patient was admitted to hospital 20 hours after the signs of strangulation had become marked. He was then in considerable pain, vomiting occurred at intervals, and the bowels were confined. The scrotum was red, tender, and considerably swollen. A herniotomy revealed a sac containing a quantity of red stinking fluid, six inches of small intestine with a small gangrenous patch perforated in the centre, and a single apple-pip free. The small gangrenous patch was inverted by the passage of four Lembert's sutures, the bowel was cleansed, the neck of the sac was removed, and the bowel was returned within the abdomen. No attempt was made to close the wound but this was plugged with gauze. The wound granulated up and the patient left the hospital cured after an uneventful course on the forty-eighth day. The second case was that of a male infant, aged nine weeks, an ill-nourished illegitimate child, the subject of congenital syphilis, in whom a small partial enterocele in a state of gangrene was found to exist. Two cases were also mentioned in which "doubtful" rings of gut had been stitched over and a third in which a gangrenous patch had been inverted successfully. The first case (that of the old man) was admitted to belong rather to the category of an intestinal perforation than to that of gangrene, but the second was an example of an ordinary gangrenous partial enterocele, and it was claimed that the method of treatment adopted could not safely have been replaced by any other. The opinion of Mr. W. Watson Cheyne and Mr. F. F. Burghard was quoted in favour of the adoption of the method of invagination in cases in which the condition of the gut was doubtful; reference was also made to some cases published by Professor C. J. Breitmann in which inversion of gangrenous patches was successfully carried out. The opinion of Professor Graser condemning the method as dangerous was also quoted, but Mr. Makins urged the value of the method in all cases where there was reason to believe the gangrene to be local and unaccompanied by diffuse infective inflammation of the bowel beyond. He also claimed that it was applicable to some cases in which resection could not be performed with safety to the patient as in the two instances which formed the subject of his communication.—Mr. L. A. DUNN referred to two cases of strangulated hernia which had been reduced *en masse*, in which similar pathological conditions had been successfully dealt with by this method. Another case, that of a boy, had been thus treated, but the boy died accidentally from suffocation. In a fourth case no harm had resulted by leaving the gangrenous spot of bowel.—Mr. A. A. BOWLBY remarked on the frequency with which some surgeons met with cases requiring resection of the bowel. His own experience was that such cases were few in number. There were, however, a certain proportion, especially cases of femoral hernia, which might be best dealt with by bringing together the peritoneum over the gangrenous or partially gangrenous bowel. For some years he had adopted this method rather than more extensive resection.—Mr. C. H. GOLDING-BIRD referred to the appearance of the gut in the first case mentioned by Mr. Makins, in which the resiliency of the bowel was lost. This appeared to him to be a most important point.—The PRESIDENT hoped that Mr. Makins's paper would do away with the too free resection of the intestine which was the practice of some surgeons. He had often adopted the practice advocated by Mr. Makins, especially in femoral hernia.—Mr. MAKINS replied.

## OPHTHALMOLOGICAL SOCIETY.

*Anophthalmos and Microphthalmos in a Chick.—The X Rays in Trachoma.—Injuries to the Eye of the Child during Labour.—Dislocation of the Eyeball.—Exhibition of Cases and Specimens.*

AN ordinary meeting of this society was held on March 13th, Mr. W. LANG, acting President, being in the chair.

Mr. E. TREACHER COLLINS and Mr. J. HERBERT PARSONS communicated a paper describing the Microscopic Appearance of Sections through the Orbits of a Chick in which the right eye appeared to be congenitally absent and the left eye was abnormally small. In the right orbit a ring of hyaline cartilage, like that of the sclerotic, was found inclosing partly pigmented tissue, similar to that of the choroid. There was no lens, retina, pigment epithelium, or optic nerve; there was thus a complete failure in development of all structures derived from neural epiblast. The essential

element of an eye was a nervous mechanism which served to receive visual sensations for transmission to the brain. Where this mechanism was completely absent the condition might be accurately described as one of anophthalmos, notwithstanding the presence of some of the subsidiary structures developed from mesoblast. As far as Mr. Collins and Mr. Parsons had been able to ascertain, there was no case of congenital absence of the eye in which it had been satisfactorily shown by microscopical examination that the mesoblastic structures were entirely absent. On the left side the chick had a microphthalmic eye in which the lens had failed to become separated from the cornea. The capsule of the lens was adherent to the substantia propria of the cornea, Descemet's membrane having failed to develop. The adhesion had obstructed the growth of the iris forwards; above it had turned back and crept round the posterior surface of the lens; below its growth had become arrested.

Mr. M. S. MAYOU (Cricklade) read a paper on the Treatment of Trachoma by the X Rays. The idea first occurred to him when treating rodent ulcer and lupus of the eyelid, on finding that no serious damage was done to the globe. The first case cured in this way was shown by him last June; since then several others had been successfully treated. The histological changes in living tissues exposed to the action of the x rays were then described, the most important change being a superficial irritation capable of being increased and accelerated by the simultaneous application of other irritants, such as copper sulphate. Most of the resulting leucocytosis was found around the trachoma nodules and the cells of rodent ulcer after x-ray treatment of these diseases, the reason for this being that they similarly acted as irritants. It was next pointed out that with care the amount of reaction produced could be regulated and that the varying degrees of reaction might be compared with the first three degrees of burns described by Dupuytren. Cases of prolonged exposure of the globe to the x rays were then instanced where the only bad effects produced, and those only temporarily, were falling out of the eyelashes and conjunctivitis; this latter trouble was also found amongst workers in the x rays, and in them it could be prevented by the use of lead glass spectacles. Mr. Mayou found, with Fuchs and Kreidl (1896), that there was no bleaching of the visual purple by the x rays; his experiments were carried out on rabbits and frogs. The results of treatment by the x rays were then compared with those produced by copper sulphate, jequirity, and other irritants and it was pointed out that there were less destruction of tissue and subsequent cicatrisation, as well as less pain, with the former method. The technique of the treatment was then described. The eyelids were everted (the operator's hands being protected by bismuth ointment and cotton gloves); the cornea was only exposed in severe cases where pannus was present. Owing to the infiltration set up difficulty was found in deciding when treatment should cease. Out of nine cases five remained well, one cleared up but recurred two months later, two others improved and were still under treatment, and in one case of corneal opacities following trachoma the vision had improved from perception of light to counting fingers at three feet. The advantages of this treatment were: (1) there was less resultant deformity of the lid; (2) it was painless; and (3) pannus cleared more thoroughly. The disadvantages were: (1) all patients did not react well to the x rays; and (2) it was sometimes difficult to tell when treatment should cease. Lantern slides of the histological changes produced by the x rays were shown and also two patients who had been cured by this treatment.—Remarks were made by the PRESIDENT, Mr. L. V. CARGILL, and Mr. S. STEPHENSON, the latter having seen the best results from the use of high-frequency currents which he had used somewhat extensively.

Dr. W. ERNEST THOMSON and Dr. LESLIE BUCHANAN (Glasgow) communicated some of the clinical and pathological observations which they had made upon Injuries to the Eye of the Child during Labour. After indicating the scope of the work done in this connexion Dr. Thomson gave a summary of the lesions in the 12 cases observed. These comprised expulsion of the eyeball, proptosis, injuries to the cornea, hæmorrhages into various parts of the eye, and retroversion of the lens and vitreous body without rupture of the globe. Dr. Buchanan described in detail three cases of lesion of the cornea—namely (1) rupture of the posterior elastic lamina with involvement of corneal tissue (healing); (2) rupture of the posterior elastic lamina and corneal tissue (unhealed); and (3) rupture of the posterior elastic lamina with abrasion. The points of similarity and difference were briefly explained. The identity of those cases of rupture of the posterior elastic lamina and corneal tissue with the cases already described as traumatic keratitis with linear opacity[1] from a clinical standpoint was pointed out and the etiology of other corneal opacities seen at birth was discussed. Remark was made upon the very unusual injury, retroversion of the lens and vitreous body, and the nature and origin of the case were somewhat fully explained. In conclusion, the subject of traumatic exophthalmos was dealt with and allusion was made to the connexion between it and the localised indentation of the cranial bones due to pressure against the sacral promontory. The subject was illustrated by macroscopic and microscopic specimens and diagrams.

Mr. J. B. LAWFORD read notes of a case of Complete Dislocation of the Eyeball forwards, occurring in a child, aged seven years, as the result of a fall against an iron fender. Reduction was easily effected under chloroform and recovery ensued with no defect of sight and no limitation of movements of the eyeball. Slight proptosis was noticeable for one month after the accident but no restriction of ocular movements could be detected even three days after the reduction of the dislocation.

The following card specimens were shown:—

Dr. BUCHANAN: (1) Separation of the Ciliary Body; and (2) Congenital Mal-development of the Cornea and Sclerotic.

Mr. MAYOU: Two drawings of the Normal Fundi, illuminated by the mercury vapour lamp.

Mr. ARNOLD LAWSON: (1) A case of Paralysis of the Ocular Fibres of the Cervical Sympathetic with Aortic Disease; and (2) a case of Chronic Irido-cyclitis (probably Sympathetic) following a Rupture of the Globe 21 years previously.

Dr. THOMSON and Dr. BUCHANAN: Preparations illustrating the Effects of Injuries to the Eye of the Child during Labour.

Mr. W. H. JESSOP: Tumour in the Macular Region.

Mr W. W. SINCLAIR and Mr. J. H. PARSONS: Endothelioma of the Cornea.

Mr. R. W. DOYNE: (1) Melanotic Carcinoma of the Upper Lid with Pigmentation in the Lower Lid; and (2) Intraocular Hæmorrhage in a young man.

Mr. G. H. GOLDSMITH (Bedford): Hole in the Macula.

Mr. N. BISHOP HARMAN: Connective Tissue veiling the Optic Disc.

## HUNTERIAN SOCIETY.

*Exhibition of Cases.*

A MEETING of this society was held on March 18th, Dr. STEPHEN H. APPLEFORD, the President, being in the chair.

Dr. F. J. SMITH showed a case of Multiple Lipomata. The patient was a man, aged 60 years, who first came under notice in September, 1901, for pain in the region of the heart which had been present on and off for a year. He had lost two stones in weight and complained that solid food produced great pain. The abdomen was rigid and the liver was slightly enlarged and tender. The case was diagnosed as one of probable malignant disease of the stomach, but the patient improved very rapidly under treatment by bismuth and opium. He was again seen in February, 1902, still complaining of some pain in the lower chest on the left side and there was then found to exist an obscure nodular swelling just below the ribs. Diagnosis was still obscure and the case was still watched with some interest. By May extensive subcutaneous growths had appeared above the clavicles and on the ribs and arms with signs of obstruction of the deep veins—enlargement of the subcutaneous veins of the chest—but he again improved very much under bismuth and opium and the arms diminished in circumference by four inches. About the same time he had an attack of profuse melæna, after which he was much better, and in July nothing was to be felt in the abdomen. He was not seen again till January or February, 1903. For the above notes on his history Dr. Smith was indebted to the kindness of his colleague, Dr. R. Hutchison. On the patient's admission to hospital the only other point of interest ascertained was that he suffered from free epistaxis in association with the strain of vomiting. On admission to hospital in March, 1903, his state was

[1] Transactions of the Ophthalmological Society, vol. xxii.

as follows. He was apparently a fairly well-nourished man; superficial examination showed that above the clavicles and on both upper arms there was a diffuse and profuse growth of what felt like subcutaneous fat; on both forearms there were lumps varying in size from that of a walnut to that of a golf ball, with an elastic semi-fluctuating feel, freely moveable on the muscles but incorporated with the corium; in fact, with all the physical signs usually associated with multiple and diffuse lipomata. The thighs presented a similar but much less marked condition than the upper arms. On the tendons of the wrist and on the tendon of the rectus femoris on each side there were one or two small lumps more firmly adherent to the tendon sheaths. On the left first rib at its junction with the sternum and over the right pectoralis major were one or two lumps of a much firmer consistency, feeling very suspiciously like glands infiltrated with some form of growth. The veins on the left side of the chest in front were rather more prominent than was usually the case though not sufficiently so to suggest serious blockage of large deep veins. Examination of organs gave no indications of disease, the air entered both lungs freely to the base without adventitious sounds or alteration of the natural ones; the heart beat was regular in rhythm and the sounds were satisfactory; and in the abdomen there was nothing to be felt that could be called abnormal unless it was a little tenderness to palpation in the upper abdomen generally. Dr. Smith gave the above details, or rather called the attention of the Fellows to the above points, and then considered the diagnosis. He stated that in his opinion there could be no doubt that the majority of the lumps were lipomata, but he was in doubt whether there were not also some glandular involvements; he hoped to be able to persuade the patient to allow one of the quasi-glandular lumps to be removed for microscopic examination. His suspicions were especially aroused by the history of gastric trouble, though he thought this might perhaps depend upon a chronic ulcer. He drew attention to the absence of any history of previous stoutness of the patient, a history which was commonly present in cases of multiple lipomata. He promised a further communication on any new facts in the case.

Dr. SMITH also showed a case of Leucocythæmia. The patient was a man, aged 32 years. His illness began in 1901 with a continued drowsy and sleepy feeling; he then noticed that his abdomen was swelling and that he got short of breath. He was then told that his spleen was enlarged. He was admitted to hospital under the care of Dr. Smith in July, 1902, was treated with arsenic, and was discharged improved in September with a blood count showing—white corpuscles 171,600, red corpuscles 2,000,000, and hæmoglobin 45 per cent. He was readmitted to hospital on Feb. 21st, 1903, with loss of energy, shortness of breath, and swelling of the eyelids and ankles. He gave a history of hæmorrhage from the gums with attacks of faintness and giddiness; he had also cramps in the muscles. A blood count showed—white corpuscles 320,000 and hæmoglobin 50 per cent.; a stained film showed some poikilocytosis of the red cells and a few nucleated ones with every described variety of white cell with a preponderance of transitional forms; many blood platelets, in clumps and singly, were also present. The fundi oculorum showed no pathological changes of any kind. The spleen reached from the diaphragm to the pelvis. Dr. Smith remarked that the case showed no especial features of its own, but he had brought it as an example of a somewhat uncommon disease. He was having a research carried out upon the uric acid in the urine by Dr. MacLeod in the Pathological Institute of the London Hospital.

Dr. W. H. KELSON showed a man suffering from Ulceration of the Epiglottis, Inter-arytænoid Fold, and both Vocal Cords. Tubercle bacilli were present in the sputa. There were evidences of slight changes in the lungs. The patient complained chiefly of pain on swallowing, which had been markedly relieved by orthoform insufflations. He had also been getting hoarse for about a month. Dr. Kelson, in replying to questions, said that orthoform powder had proved of great value in the relief of pain attending tuberculous ulceration.

Dr. T. GLOVER LYON showed a case of "Cured Phthisis." The patient was a girl, aged 11 years. She was said to have had a cough with slight expectoration for two months, occasional slight spitting of blood, and had "wasted shocking." On admission to Victoria Park Hospital she was very thin, with shiny skin and pasty complexion, looking very ill. The physical signs were much the same as described later except that the heart's apex beat was normal in position. The patient rapidly improved in general condition and in eight weeks her weight increased from 4 stones 4 pounds to 5 stones 1 pound, an increase of 16 per cent. After two months in hospital the physical signs were as follows: the chest was well formed, moving slightly less on the left than on the right side; in front there was dulness and much increased resistance over the lung area above the heart, the apex beat of which was in the fourth interspace. There was tubular breathing with metallic (dry) crepitations. There were increased vocal resonance and decreased vocal fremitus. Behind there were slight dulness, metallic crepitations, and increased vocal resonance and vocal fremitus over the upper half. Cough and expectoration had entirely ceased and the child looked happy and well. The expectoration had ceased soon after admission and no examination of it had been made, but there was no doubt about the tuberculous nature of the disease. The temperature had shown a tendency to rise from time to time up to 101° F., but the child had been allowed to get up without apparently any effect upon these rises of temperature.—Dr. SMITH, Mr. W. HARRIS BEST, Dr. W. H. KELSON, Mr. A. W. GALLOWAY, Dr. W. RAWES, and Mr. JOHN ADAMS discussed the cases.

## LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

*Exhibition of Cases and Specimens.*

A CLINICAL meeting of this society was held on March 20th, Mr. JOHN IRVING, the President, being in the chair.

Mr. J. G. E. COLBY showed a lad with Transposed Viscera.

Dr. E. WARD exhibited two cases of (?) Molluscum Fibrosum.

Dr. T. CHURTON showed: 1. A woman, aged 39 years, who had been under Anti-syphilitic treatment since December, 1901. At first the subclavian arteries, especially the left, were thickened and greatly dilated, the pulsation being visible above the inner and below the outer part of the clavicle. The carotids were similarly but less affected and pulsation was felt behind the manubrium. All these arteries now appeared to be perfectly normal. The other signs of syphilis had disappeared. Diffuse arteritis in an early stage was apparently as curable as diffuse syphilitic hepatitis in an early stage. 2. A woman, aged 49 years, with Aortic Aneurysm pulsating in the second left interco-tal space. A systolic bruit was audible at the margin of the sternum, in the second interspace, and also over the trachea. 3. A case of Glycosuria of uncertain origin in a man, aged 56 years, in which "renal diabetes" had been excluded by finding an excess of sugar in the blood by Williamson's test.

Mr. W. H. BROWN showed some Results of Plastic Surgery.

Dr. J. GORDON SHARP showed: 1. A man, aged 40 years, exhibiting Infiltration of the Soft and Hard Palate, Epiglottis, Inter-arytenoid Region, and Ventricular Bands, probably tuberculous in nature, although no bacilli were found in the sputum. The condition had greatly improved under the local application of 75 per cent. lactic acid. The same patient also showed great hypertrophy of the lingual tonsil causing no inconvenience and untreated. Six months previously he had pleurisy. 2. Three cases of Vaso-motor and Trophic Disease treated for some weeks with dried adrenal gland and cod-liver oil. During the past month five grains had been given twice a day. Case 1 (that of a girl, aged 13 years) was one of true Raynaud's disease, showing remnants of necrosis of the soft parts of the fingers and toes. Last winter the girl had to be confined to bed on account of the sores. Under the present treatment she had this winter been able to move about and to do household work; all saving one sore on the toe had healed. Case 2 (that of a girl, aged 11 years) was considered to be one of severe "broken" chilblain with large areas showing local asphyxia. The sores had nearly all healed and the nutrition of the skin and parts in general had improved. Case 3 (that of a girl, aged nine years) was one of doubtful Raynaud's disease showing the results of malnutrition of the nails of the

fingers and toes, sores of the soft parts, areas of asphyxia, and glossy skin. Although on first consideration a substance like adrenal gland which contracted vessels would appear to be contra-indicated in local syncope, yet, as suggested by Dr. A. Mantle, the agent might act beneficially by raising the blood pressure.

Mr. H. LITTLEWOOD showed ten cases of Acute Perforated Gastric Ulcer which he had successfully operated on during the last seven years. In all the cases the perforation was in the anterior wall of the stomach and nearer the lesser than the greater curvature. The quantity of extravasated material varied from a general flooding of the peritoneal cavity to a small amount in the region of the ulcer and hypochondriac regions. Case 1.—The patient was a young woman, aged 18 years. Operation was performed on May 2nd, 1896, seven hours after perforation. Much extravasation was present. The ulcer was excised and the stomach opening was closed with interrupted silk sutures. The abdomen was drained. Case 2.—The patient was a young woman, aged 18 years. Operation was performed on July 21st, 1896 six hours after perforation. The ulcer was excised and the opening in the stomach was closed with interrupted silk sutures. Much extravasation was present. The abdomen was drained. Case 3.—The patient was a single woman, aged 28 years. Operation was performed on April 11th, 1899, five hours after perforation. The ulcer was excised and the stomach was closed with interrupted silk sutures. There was not much extravasation. The abdomen was closed without drainage. Case 4.—The patient was a single woman, aged 28 years. Operation was performed on Dec. 11th, 1900, five hours after perforation. The ulcer was excised and the stomach was closed with interrupted catgut sutures. The abdomen was closed without drainage. Case 5.—The patient was a single woman, aged 24 years. Operation was performed on Sept. 11th, 1902, about 24 hours after perforation. The ulcer was excised and the stomach was closed with a continuous catgut suture. Extravasation was limited to the upper part of the abdomen. The abdomen was closed without drainage. Case 6.—The patient was a single woman, aged 24 years. Operation was performed on Oct. 25th, 1902, about 18 hours after perforation. The ulcer was excised and the stomach was closed with a continuous catgut suture. A good deal of extravasation was present. The abdomen was drained. Case 7.—The patient was a single woman, aged 20 years. Operation was performed on May 15th, 1902, about 14 hours after perforation. The ulcer was excised and the stomach was closed with a continuous catgut suture. There was much extravasation. The abdomen was drained. Case 8.—The patient was a single woman, aged 23 years. Operation was performed on Feb. 26th, 1903, about ten hours after perforation. The ulcer was excised and the stomach was closed with a continuous catgut suture. There was not much extravasation. The abdomen was closed without drainage. Case 9.—The patient was a young woman, aged 19 years. Operation was performed on March 1st, 1903, eight hours after perforation. The ulcer was excised and the stomach was closed with a continuous catgut suture. Not much extravasation was present. The abdomen was closed without drainage. Case 10.—The patient was a young woman, aged 18 years. Operation was performed on March 16th, 1903. The ulcer had perforated on March 12th. There was very little extravasation, as the stomach around the perforation was adherent to the under surface of the liver. The ulcer was excised and the stomach was closed with a continuous catgut suture. The abdomen was closed without drainage.

Dr. T. WARDROP GRIFFITH showed: (1) Cases of Raynaud's Disease; (2) a case of Cerebral Diplegia; and (3) an extensive Rodent Ulcer which had undergone complete cicatrisation under the use of the x rays during five months.

Mr. A. L. WHITEHEAD showed: (1) A case of Traumatic Ocular Paralysis; (2) a case of partial Embolism of the Central Artery of the Retina; and (3) a case of Detachment of the Retina.

Dr. DOUGLAS SEATON showed: (1) Two cases of Congenital Syphilis; and (2) a case of Malignant Disease of the Floor of the Mouth.

Mr. H. R. BEALE showed a case of Lesion in the Middle of the Pons. There was palsy of the left internal rectus for conjugate deviation to the right, but not for convergence; the pupils were normal. The superior obliques were normal. Sensation in the face was normal. Paralysis of the muscles of mastication, palsy of both external recti (greater on the right), and facial palsy were present, and deafness existed on the right side. The remaining cranial nerves were normal. Palsy, incoördination, and numbness of the right arm and hand were present. There was increase of reflexes on the right side. The patient suffered from headaches and vomiting.

Mr. R. LAWFORD KNAGGS showed a patient in whom the Great Sciatic Nerve had been Severed six years ago by a Crowbar that had transfixed the thigh. The nerve had been sutured on the following day. The patient could walk without a noticeable limp but sensation over the lower part of the leg and foot was still very imperfect. Considerable improvement had taken place during the last two years and was continuing.

Dr. E. F. TREVELYAN showed: 1. A series of cases of Laryngeal Affections in Phthisis among which were (*a*) a lad with a fixed left cord, enlarged glands in the neck, tubercle bacilli in the sputum, and no definite abnormal signs in the chest; (*b*) a man with persistent hoarseness and no obvious change in the larynx; and (*c*) a man with laryngeal obstruction due to infiltration of the ventricular bands. 2. A case of Tabes Dorsalis of long standing in a man who had worn a shade for many years on account of diplopia. Removal of the shade caused a great increase in the ataxia although the diplopia had quite disappeared. 3. A case of Marked Silver Nitrate Pigmentation. This patient had taken for 11 months a solution of nitrate of silver prescribed by a herbalist as a remedy for venereal disease.

Dr. S. M. HEBBLETHWAITE showed a case of Trichocephaliasis.

## LIVERPOOL MEDICAL INSTITUTION.

*Pathology of Progressive Muscular Atrophy.—Acute Intussusception with Ulceration of the Intestine.—Exhibition of Specimens.*

A MEETING of the Pathological and Microscopical Section of this society was held on March 26th, Dr. R. J. M. BUCHANAN being in the chair.

Dr. A. W. CAMPBELL gave an account of the histology of two cases of Progressive Muscular Atrophy and made special reference to changes in the Cortex Cerebri. In both instances the muscles, the peripheral nerves, the spinal cord, and the bulb showed typical alterations; in both also a serial examination of the Rolandic area in the whole of its extent revealed the remarkable fact that in the part of the ascending frontal gyrus and paracentral lobule which an examination of healthy brains proved to be the normal residence of the giant cells of Betz scarcely any of these elements were to be discovered, and their disappearance was associated with a general distortion of the cells which remained, atrophy of efferent fibres, and distension of cortical blood-vessels. The ascending parietal and other neighbouring convolutions were relatively healthy. The view that the spinal changes in progressive muscular atrophy were primary was rendered unstable by the findings in these two cases, because from an experience of the cortical alterations in instances of interference with the system of motor neurons at a lower level (cases of myelitis and amputation) it was idle to suppose that a complete retrograde destruction of the cells of Betz could occur during the progress of a disease which usually did not last more than three years. The alternative views mentioned were that either the cortical changes were primary or else in progressive muscular atrophy an expression could be seen of a general and more or less simultaneous affection of the whole system of motor neurons. The fact that the alterations were entirely confined to the area of distribution of the cells of Betz gave support to the view previously expressed by Dr. Campbell on histological grounds that in man the topography of the motor area was analogous to that which Professor C. S. Sherrington and Dr. A. S. F. Grünbaum had defined in the anthropoid ape; further, since sensation was unimpaired in cases of progressive muscular atrophy, the changes noted could be used as an argument against the theory of the mixed sensori-motor function of the central convolutions. The paper was illustrated by drawings and microscopic sections and in one of the latter an abundance of muscle spindles was seen remaining in an extremely atrophied muscle, an appearance which strengthened the view that these bodies were concerned with muscle sense.—Dr. W. B. WARRINGTON considered that Dr. Campbell had made an important addition to the pathology of this disease

since the complete disappearance of the Betz cells had not previously been described. It was recognised that the anatomical changes in the great cortico-spinal efferent tract were found most extensively marked in its peripheral distribution and were not often seen in the higher cerebral regions. This, however, did not imply a peripheral origin but indicated that the anatomical change first appeared in the position most remote from the trophic centre. Etiologically no toxic influence had been traced and the view appeared probably correct that the disease was primarily due to some inherited lack of durability and unusual stress on the motor neuron. Such considerations also led to the acceptance of the view that the disease first began in the great pyramidal cells. Dr. Campbell's demonstration of the integrity of the muscle spindles was also important.—Dr GRUNBAUM and Dr. J. WIGLESWORTH also spoke and Dr. CAMPBELL replied.

Dr. LLEWELLYN A. MORGAN read a note on a case of Acute Intussusception in an Infant associated with Ulceration of the Intestine.—Mr. R. W. MURRAY said that the case was exceptionally interesting on account of the remarkable combination of the lesions. It was the only case of intussusception he had met with in which the invagination originated above the ileo-cæcal valve and it was the only case he had seen in which tuberculous ulceration of the gut had been the cause of the intussusception.

The following specimens were shown :—

Dr. R. T. BAILEY : (1) Acute Plastic Pericarditis ; and (2) the Lower Jaw of a Child who had been the subject of congenital syphilis.

Mr. F. C. LARKIN : (1) Sections of a Carcinoma Mammæ densely Infiltrated with small Polynucleated Round Cells ; and (2) Adenomatous Tumour which filled the lower half of the antrum and invaded the nose, the palate, and the alveolus. Its structure was that of a simple mucous gland.

Dr. WARRINGTON : Specimen and Sections from a case of Collapse of the Lung, Bronchiectasis, and Gangrene after Pneumonia.

Dr. E. T. DAVIES : Fibroid Tumours of the Uterus.

Mr. G. G. HAMILTON : Microscopical sections from a Sarcoma originating in the Tendon Sheath of the Tibialis Posticus.

Dr. J. HAY : Specimens from a case of Actinomycosis. The patient was a girl, aged 15 years, the first noticed lesion being a submammary abscess. The disease at present affected the left lung and there were secondary foci in the brain, scalp, and skin of the extremities and trunk.

Mr. W. THELWALL THOMAS : (1) Carcinoma of the Kidney removed from a woman, aged 58 years ; it occupied the lower half of the organ ; the cells of the new growth were large and showed some melanosis (Mr. Thomas considered it adrenal in origin) ; (2) a Necrotic Clavicle following Osteomyelitis removed from a man, aged 24 years ; and (3) Tuberculous Disease of the Mammary Gland in which the axillary glands were enlarged but not tuberculous.

The following members took part in the discussion of the specimens : Dr. BUCHANAN, Mr. F. T. PAUL, Mr. K. W. MONSARRAT, and Dr. F. H. BARENDT.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

### SECTION OF SURGERY.

*Operative Treatment of Enlarged Prostate.—The Surgery of the Prostate.*

A MEETING of this section was held on March 6th, Mr. L. H. ORMSBY, the President, being in the chair.

Sir WILLIAM THOMSON read a paper on the Operative Treatment of Enlarged Prostate. He read the notes of five cases on which he had operated, following the method described by Mr. P. J. Freyer. The patients' ages ranged from 53 to 75 years. One died from ether bronchitis and the others completely recovered. The results attained had been surprising and none of the patients, who had all suffered from retention and cystitis many times and had been using a catheter for varying long periods, had required any instrumentation since. In one case he had removed the prostate in a single mass, including the urethra. In the same case it had been necessary to plug the bladder some hours after the operation owing to hæmorrhage. He described a thin rubber oval disc which he had devised for such cases instead of the gauze plug, the removal of which was painful and disturbing. The disc had a long ligature carried through it and this was next tied to a catheter and brought out through the urethra. Traction made pressure on the site of the bleeding. A ligature carried through the rubber near the edge served for extraction when the bleeding had stopped. This rubber did not adhere, and as it was thin and was extracted edgewise there was no disturbance of parts and no anæsthetic was required.

Sir THOMAS MYLES read a paper on the Surgery of the Prostate, in which he advocated the perineal method of reaching the prostate.—Mr. A. B. MITCHELL said that the subject was one of great interest. He congratulated Sir W. Thomson on the success of his operation. The great questions for the general practitioner were : (1) When should operation be recommended? and (2) what was the prospect of relief? Undue frequency of micturition was due to cystitis and was the most imperative of all indications. Rapidity of procedure was a most important element in all operations on old men. Every moment an aged patient was kept on an operating table was fraught with danger, and great danger. His own experience was in favour of the suprapubic route, but he was very favourably impressed with the operation described by Sir Thomas Myles and would like to have some statistics of cases actually operated on according to his method.—Mr. JOHN LENTAIGNE was in favour of the suprapubic method ; he had no experience yet of the perineal, but the suprapubic was so easy that he had been tempted to employ it in each of the few cases he had had an opportunity of operating on. He did not accept the statement that pneumonia after operation was always septic. He had often seen pneumonia of a severe type in other operations where the wound healed aseptically and in the most perfect manner.—Sir T. MYLES and Sir W. THOMSON replied.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 19th, the President, Dr. J. Robertson, being in the chair.—Dr. Arthur J. Hall showed a specimen of Cerebellar Tumour and gave an account of the case.—Professor C. J. Patten showed a series of models in wax and plaster illustrating the Topographical Anatomy of the Abdominal Viscera. The originals from which the models were made were first thoroughly hardened by formalin injected through the femoral artery. Most of the specimens were from adult male subjects in which no sign of visceral disease was apparent. The models exhibited were : (1) the kidneys and their relations to the vertebral column, lower ribs, and pleura ; (2) front view of the abdominal viscera seen on removal of the anterior abdominal wall ; (3) a wax model of all the abdominal organs on the reconstruction method ; (4) the pancreas, duodenum, and spleen, with the relations of the branches of the abdominal aorta and inferior vena cava ; (5) wax models of fœtal lungs (human), of lungs of the *Cynocephalus babuin* and of the *Hylobates hainanus* ; (6) a model in plaster of the entire trunk of *Hylobates hainanus*, showing the relations of the thoracic and abdominal organs, especially to the vertebral column ; and (7) another model of the same animal showing the form of the pancreas, duodenum, and spleen.—Dr. J. Robertson read a paper on an Outbreak of Typhoid Fever due to the Consumption of Oysters in Sheffield. Every year there had been from 20 to 30 more or less isolated cases of typhoid fever which possibly might have been due to the consumption of polluted oysters. On one or two occasions groups of as many as two or three cases appeared to have occurred from one oyster shop. As a general rule it was exceedingly difficult to be quite certain that the infection was derived from particular oysters. This arose firstly from the difficulty of tracing the source of the oysters, secondly from the fact that everybody who consumed oysters did not contract the disease, and thirdly from the fact that in towns where typhoid fever was endemic it was very difficult to trace the source of infection. The occurrence, however, of these isolated cases every year, many of which derived their oysters from one particular district, gave rise to suspicion that the oysters from at least one source spread typhoid fever. During last summer between August 14th and Sept. 18th 43 cases of typhoid fever were notified in Sheffield. This was a much smaller number than was usual at that time of the year. On examining these cases it was found that in no less than 20 of them patients had partaken of oysters from Cleethorpes

within the previous 25 days. Oysters came directly from Cleethorpes layings to Sheffield, and in Dr. Robertson's opinion this was an important point. Oysters which were stored in clean water or even in shops lost their power of conveying the disease. In Sheffield there was every chance that the oysters from Cleethorpes were fresh. Most of the patients suffering were persons of the working class who had either been to Cleethorpes for a holiday or had bought Cleethorpes oysters in Sheffield or had had them sent from Cleethorpes. The period which elapsed between the consumption of oysters and the notification of the disease as typhoid fever varied up to 25 days—in the majority of cases the period varied between 10 and 15 days. Two of the cases were certified to be typhoid fever within seven days of the last occasion on which oysters were partaken of. In the well-marked outbreak at the Wesleyan University, Connecticut, the period varied from 13 to 33 days. After describing the oyster layings at Cleethorpes and quoting from the report of the Local Government Board Dr. Robertson described some of the other oyster layings and alluded to the difficulties which the oyster growers had in obtaining sites suitable for rearing oysters which were quite free from sewage pollution. He recommended that the profession should give warning against oysters until some guarantee was obtained of their freedom from all risk

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on March 18th, Dr. E. Symes-Thompson, the President, being in the chair.—Dr. F. A. Mouillot (Harrogate), in introducing a discussion on Dietetic Factors in Health Resort Treatment, said (1) that a considerable portion of diseases treated at spas was due to faulty metabolism and that gout, obesity, and glycosuria were the chief of these diseases and were closely connected; (2) that gout in its widest sense was due to the development of certain poisons in the process of digestion and that these poisons were best limited by a simple meat dietary; (3) that it was irrational to consider food or drugs solely from the point of view of their acidity or supposed solvent power on uric acid; (4) that if the patient was properly dieted at home no marked change ought to be made in the diet at the spa, more particularly should the quantity of food not be restricted whilst undergoing a treatment which made a great strain on the activity of the system; (5) that the education which the patient received as to the regular consumption of non-alcoholic fluid apart from meals was a useful one; (6) that an attempt to treat obesity by withholding fluids was to be condemned as leading to the production of serious disease and ill-health and that though it was right to diminish the quantity of fluid taken at meals it was wrong not to make up for that limitation by giving water apart from meals; and (7) that alcohol should be taken in very limited quantities, if at all, and that in the case of gout whisky, still Moselle and still cider seemed least harmful.—Dr. Harry Campbell pointed out that for the long period which elapsed before man learnt to cook his food and to till the soil his supplies of starch were limited and subjected to such thorough mastication and insalivation that very small quantities of crude starch passed into the stomach; whereas in this stage of abundant starch and imperfect mastication the stomach and intestines were flooded with undigested starch which gave rise to many evils.—Dr. Preston King (Bath) pointed out that while the Continental system of a more strict diet was suited for certain cases there were more for which it was not adapted, and he would be sorry to see it introduced here. Each case must, in dietary as in other things, be treated on its merits.—Dr. Léon Blanc (Aix-les-Bains), speaking specially of the diet in gouty cases, said that the diet regulations were not very strict in France because the ordinary food was comparatively light. He gave mixed diet, including meat, only twice a day, and preferably beef and mutton, which must be boiled if possible. Game, venison, pork, and preserved meat were forbidden. All vegetables were good, and fresh fruits, especially acid fruits, were taken between meals. Alcohol must be proscribed. Pure water (Massonat water) should be given with a little white wine or lemon-juice, &c. All alkaline preparations must be prohibited.—Dr. Schott (Nauheim) said that every case must be provided for according to its own individual peculiarity. He advocated a mixed diet in heart cases, and small and frequent meals, generally at intervals of three hours, and of high nutritive value. Alcohol should be taken in a state of high dilution. It was unquestionably the case that certain wines well borne by continental patients produced acidity in some of the English, and in such cases it was better to fall back on small and regulated quantities of whisky or brandy in a state of free dilution.—Mr. A. G. S. Mahomed (Bournemouth) and Dr. George Lorimer (Buxton) also made some remarks, after which the discussion was adjourned.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on March 19th, Dr. W. Winslow Hall, the President, being in the chair.—Mr. F. Jaffrey showed (for Mr. Crisp English) a girl, aged four years, whose gait had become waddling when she was two years of age and had remained so, but without giving any pain. There were some atrophy of the muscles about the hip and an inch shortening of the limb. The case was thought at first to be one of coxa vara, but a skiagram showed it to be a well-marked instance of congenital dislocation of the hip. Mr. Jaffrey asked for suggestions as to treatment.—Mr. Noble Smith considered the case a very favourable one for treatment by Lorenz's method.—Dr. Sidney P. Phillips showed an extreme case of Osteo-arthritis of the left knee in a man, aged 48 years. The patient had rheumatic fever at the age of 15 years and at the age of 33 years he began to suffer from osteo-arthritis. Many joints were now affected, but the left knee was enormously enlarged and was tense and elastic. A small amount of fluid withdrawn by aspiration proved to be sterile.—Mr. Jaffrey thought the treatment by massage and hot-air baths daily should be followed. Probably at least two or three different complaints were included under osteo-arthritis. Very likely some cases were of bacterial origin. He had found guaiacum and sulphur of use in many instances.—Mr. Noble Smith said that no doubt the pathology of the disease differed in different cases, but in all cases there was increased tension in the bone. In chronic bone inflammation, therefore, he was in the habit of adopting "bone drilling." In tuberculous disease drilling was remarkably effective. It also relieved pain in the early stages of rheumatoid arthritis. He showed the drill which he generally used.—Dr. G. A. Sutherland remarked on the failure of drugs either to relieve the symptoms or to cure the disease. Whatever the nature of the original poison he thought it acted ultimately on the central or peripheral nervous system, so that the pains and deformities of the later stages were really dependent on a nerve lesion.—Dr. E. Cautley said that one definite type of osteo-arthritis was symmetrical in form and often occurred in acute attacks, simulating subacute rheumatism, and usually it began in the metacarpo-phalangeal joints of the first and second fingers. This type was most common in young women between 15 and 25 years of age; sometimes it occurred in young children and was frequently seen in later life in a more chronic and less severe form. It was incurable. Another type of the disease was probably pyæmic in origin. A third form affected the larger joints, occurred in older people, and often followed an injury. The acute generalised form might be of nerve origin, due to some affection of the trophic nerves or to some toxin. Some cases were preceded by neuralgic pains for months before any joint lesion was noticed.—The President advocated the use of cod-liver oil—at all events, in certain forms of osteo-arthritis.—Dr. W. J. Harris showed a woman who was probably suffering from Acute Poliomyelitis.—Mr. Jaffrey showed a patient who was supposed to be suffering from Actinomycosis of the Upper Jaw.—Mr. P. L. Daniel thought that the case suggested an abscess in connexion with the carious root of a canine tooth. He suggested that the affected site should be slit up and scraped.—Mr. Jaffrey also showed two cases of Monarticular Osteo-arthritis of the Elbow-joint.

MANCHESTER MEDICO-ETHICAL ASSOCIATION.—At a recent meeting of this association, Dr. D. Lloyd Roberts being in the chair, a discussion took place on the Administration of the Vaccination Act.—Mr. David Owen in opening the discussion contended that all vaccination performed by a registered medical practitioner should be paid for by the State at the same rate as public vaccination, provided that the standard of the Local Government Board was reached. In this way the quality of vaccination in the country would be greatly improved, especially if it were made subject to some form of inspection which as "surprise visits" might be carried out without any great additional expense, and in estimating this expense the enormous cost of small-pox to the community should

not be forgotten. It was important to reconcile public opinion to compulsory vaccination and revaccination, and given a free choice of medical man much of the present opposition would be removed. From statistics which he had collected he had no doubt that in Manchester at least the greater number of vaccinations did not reach the standard laid down by the Local Government Board, which might be taken as the standard of efficiency. There was nothing in the nature of the present Act to reduce the divergence between the vaccination results of the public vaccinators and those of private practitioners. The unsatisfactory nature of the present Act had been the subject of comment by members of the profession in the columns of the medical journals for nearly two years.—Dr. John Scott argued that the one essential of improvement was the proposition advanced by Dr. F. T. Bond of Gloucester and others that vaccination should be made a department of public health and placed under the control of the sanitary authorities. It was to be hoped that in the next Bill revaccination at the age of 12 years, as recommended by Mr. Jonathan Hutchinson and Sir W. Guyer Hunter before the Royal Commission, would be made compulsory. Dr. Scott offered three suggestions: (1) that vaccination should be placed in the public health department of the county council authority; (2) that the public vaccinator should do nothing else but this work; and (3) that the coöperation of medical men in educating the public in the efficiency of vaccination should be enlisted.—Dr. E. Vipont Brown said that the reason why such an enormous proportion of children were not vaccinated efficiently was that it sometimes paid the general practitioner to vaccinate inefficiently. When parents took their children to a private practitioner in preference to the public vaccinator it was very often in the hope that the former would put on only one mark, or at most two marks. Indeed, that was what they were constantly asked to do. The remedy was obvious: to make all general practitioners public vaccinators and to let the State pay them for efficient vaccination—and for efficient vaccination only. Then self-interest would cause them to educate their patients to understand the advantage of efficient vaccination as defined by Government and they would persuade them to submit to it.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 18th, Mr. J. Mackie, the President, being in the chair.—Mr. A. R. Anderson read notes of Three Cases of Operation for Perforated Gastric Ulcers. Two of the patients were shown and the third was stated to be well. When the position of the ulcer was such that the proceeding was feasible Mr. Anderson recommended that the whole ulcer should be excised and that the stomach should be sewn up by a double continuous suture. This, in his opinion, gave better results in that on recovery from the operation all symptoms of indigestion entirely disappeared, whereas when the ulcer was simply turned into the stomach and the perforation thus closed symptoms of indigestion frequently persisted.—Mr. W. M. Willis said that his experience bore out this contention and that excision was preferable to merely turning in when possible.—Dr. W. B. Ransom delivered an address on Public Measures for the Prevention of Tuberculosis. The lines which the education of the public in the matter of hygiene as a means of prevention of tuberculosis should follow were indicated. The question of the housing of the poor in relation to tuberculosis was alluded to; and the advisability of certain measures being adopted by the municipality as a means of checking the spread of the disease was suggested. It was resolved, on the motion of Dr. P. Boobbyer (medical officer of health of Nottingham), seconded by Dr. C. H. Cattle, that the meeting should be adjourned in order that this important question might be adequately discussed.—Dr. Ransom then gave notice that at the adjourned meeting he would move—

That in the opinion of this society voluntary notification of phthisis is desirable.

——The adjourned meeting was held on Feb. 25th, the President again being in the chair.—Dr. Ransom having briefly introduced the subject of his address it was discussed by Dr. Boobbyer, Dr. F. H. Jacob, Mr. Wood, Dr. Mackenzie, Dr. W. E. Tresidder, Dr. W. Hunter, Mr. J. J. Dabell, and Dr. J. F. Blurton.—Dr. Ransom replied and then brought forward his motion as given above. He defined "voluntary notification" as referring both to patient and medical man. The object of such notification was, he suggested, that steps might be taken by the municipality, either by means of lady sanitary inspectors or of assistant medical officers of health, to carry out certain hygienic measures advisable in this disease and for the purpose of educating the public in the means for the prevention of infection.—The motion was seconded by Dr. Boobbyer and a spirited discussion ensued in which Mr. Wood, Mr. Anderson, Dr. E. C. Kingdon, Dr. Blurton, Mr. T. Geraty, Mr. Dabell, Mr. J. Thompson, Dr. Mackenzie, Dr. Hunter, and Miss Sarah Gray, F.R.C.S. Irel., took part.—On the motion being put to the meeting 11 members voted in its favour and six against it, whilst seven members remained neutral.

MIDLAND MEDICAL SOCIETY.—The ninth ordinary meeting of this society was held on March 18th, Mr. H. Langley Browne, the President, being in the chair.—Mr. A. Lucas showed a girl, aged 16 years, in whom he had Excised the Superior Maxilla nine months previously. The cavity had closed with the exception of a small aperture a quarter of an inch in diameter. With the aid of an obturator kept in place by a spring from the lower jaw practically the whole of the resulting deformity was obliterated and the patient was able to speak and to masticate normally. The growth for which the operation was performed was an osteoma arising in the antrum of Highmore. It had been present for many years and lately had increased rapidly. It was causing much disfigurement of the face and was encroaching on the orbital and nasal fossæ.—Mr. C. A. Leedham-Green showed a case of Xeroderma Pigmentosum in a child, aged seven years.—Dr. O. J. Kauffmann showed a case of Sarcoma, primary in the arches or spinous processes of the lumbar vertebræ. There were deposits in the spinal dura mater beneath the primary growth, but to the naked eye the cord itself appeared to be free from damage of any sort. There were secondary deposits in the retro-peritoneal lumbar glands and many in the liver. The patient was admitted to hospital with pronounced spastic paraplegia and symptoms locating the lesion in the upper lumbar segment. The history was that he had gone to work in perfect health one day in July, 1902, and that while working he had the sensation of having caught cold in his back. He walked home with difficulty and went to bed, and next morning he was unable to rise. He never again put his foot to the ground. He was admitted to hospital in December, 1902, and was then entirely paralysed in the legs, and soon he developed overflow-dribbling from the bladder and cystitis. A month later, without any change of symptoms, excepting the development of a slight boss in the lumbar region, he died. It was thought that the rapid onset of paralytic symptoms had been due to thrombosis of a nutrient artery produced by the presence of the tumour.—Dr. J. Douglas Stanley showed a specimen of Dilated Heart from a patient who also suffered from Pyloric Stenosis. The patient, a male, aged 38 years, had suffered from pain in the epigastrium after food for a year. There was occasional vomiting. The appetite was voracious. Death was due to collapse. On post-mortem examination the pyloric stenosis appeared to be caused by fibrosis round a simple ulcer situated in the pylorus.—Mr. A. W. Nuthall showed a specimen of Diffuse Carcinomatosis of the Intestine.—Mr. Christopher Martin read (for Mr. Edge) a note on the After-progress of a Case of Oöphorectomy for Recurrent Cancer of the Breast.—Dr. A. D. Heath read a paper on Scarlatiniform and Erythematous Eruptions.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on March 13th, Dr. V. H. Wyatt Wingrave, the President, being in the chair.—Dr. J. Dundas Grant showed a case of Deafness due to Myxœdema in a female, aged 59 years. The deafness in this case was a combination of nerve deafness and obstructive deafness and while the general symptoms had improved under thyroid treatment the deafness had remained much the same.—Dr. Atwood Thorne inquired what evidence there was to the effect that the deafness in this patient was due to myxœdema.—Dr. Dundas Grant, in reply, said that myxœdema was admitted to be a cause of deafness and that he had seen such cases enormously improved as regards their hearing when thyroid treatment was used.—The President also said that he considered myxœdema to be a cause of deafness.—Dr. W. Jobson Horne said that he had seen a small series of cases of myœdema complicated with deafness and his experience was that the deafness did not improve with thyroid treatment.—The President

read, on behalf of Mr. Mayo Collier, who was unable to be present, the notes of a case of Suppuration of the Frontal Sinus.—Mr J. E. McDougall read a short paper on a New Method of dealing with Adherent Soft Palate.—Dr. L. H. Pegler read a short paper on an Unusual Experience after Partial Turbinotomy. The essential feature of the case was that there was a delay in healing but a successful result was at last brought about by the accidental application of a solution of iodine ("Mandl's pigment") stronger than was intended.—The President showed (1) a case of Tuberculous Granuloma of the Larynx in a female, aged 26 years; (2) a case of Lupus of the Larynx occurring in a boy and almost entirely confined to the epiglottis; and (3) a case of Aphonia due to disease of the larynx the nature of which was uncertain.—The President also showed a case of Bilateral Adductor Paralysis following tonsillotomy in a girl, aged 14 years. She remained aphonic for 14 days after the operation, and at once regained her voice after a single application of the interrupted current. He felt inclined to regard the nitrous oxide gas, which was the anæsthetic used, as the cause of the paralysis.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 17th, Dr. T. Arthur Helme being in the chair.—Mr. F. H. Westmacott made a communication on Nasal Obstruction and its Causes. He indicated the leading symptoms of this condition—namely, inability to breathe freely through the nose, a certain facial expression, "adenoid facies," present in nearly all cases, discharge from one or both nostrils forward or into the nasopharynx, thickness of speech or voice, the so-called nasal voice, broadening of the bridge of the nose, a short upper lip, and open mouth. Of the various nervous or reflex symptoms he mentioned headache, cough, asthma, deafness, convulsions (epileptiform in character), as well as a dull mental condition and inability to concentrate the mind and attention on any subject (sometimes called aprosexia). Loss of smell and defective vision might be present in some cases. Occasionally the child might become "pigeon-breasted," the obstruction inducing a deficient or negative pressure in the chest, drawing in the lower ribs or cartilages. In a child the occurrence of a unilateral obstruction with a discharge more or less offensive and blood-stained pointed strongly to the presence of a foreign body, whilst in an adult a similar condition might indicate an empyema of the accessory cavities. Should the patient be able to detect an offensive odour in the discharge, then in all probability the antrum of Highmore was affected, but if no odour was detected by the patient, or if there was loss of smell on that side, suppuration in one or more of the upper accessory cavities was indicated.—Dr. W. E. Fothergill read a paper entitled "Some Personal Impressions on Puerperal Eclampsia." He condemned the induction of labour as a routine practice in such cases and stated that in many cases it probably produced a fatal issue.

IPSWICH CLINICAL SOCIETY.—A meeting of this society was held at the East Suffolk Hospital on March 12th, Dr. W. W. Sinclair, the President, being in the chair.—The President showed two eye cases: (1) a case of Cataract complicated with extensive iritic adhesions operated on successfully; and (2) a case of Congenital Ptosis with associated movements of the affected eyelid.—Dr. H. H. Brown showed a case of Locomotor Ataxy with a Charcot's Knee. He then read notes on a case of Intestinal Obstruction in a child where a preliminary colotomy was performed and subsequently a large portion of gut was successfully resected. He also read notes on a case of Stricture of the Œsophagus due to the patient swallowing a mineral acid; gastrostomy was performed and the patient was now well.—Mr. J. F. C. Hossack read notes on some cases of Influenza complicated with Jaundice.—Mr. A. T. Pringle read notes on a case of removal of the Sigmoid Flexure for Carcinoma; the patient was doing well.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—At a meeting of this society on March 25th Dr. J. Nigel Stark, who was in the chair, read a paper on Ovariotomy in a patient suffering from Exophthalmic Goitre. In the case reported the symptoms of Graves's disease were very well marked and the tachycardia was excessive. Operation had to be resorted to. The therapeutic exhibition of thyroid had been detrimental. At the operation the tumour, which extended to the stomach, was partly gangrenous from twisting of its pedicle. The acute onset of the abdominal symptoms had coincided with the twisting of the pedicle. The tumour was removed after breaking down many adhesions. It was a multilocular ovarian cyst. The patient was much relieved by the operation but succumbed on the second day. The heart-rate was then varying between 160 and 200 per minute. Dr. Stark thought that the condition had really been aggravated by the administration of the thyroid and he strongly advised that before operation on such cases the general condition should be improved. He recommended the administration of strychnia and perhaps digitalis some time before operation.—Dr. Edgar then reported four cases where Labour had been obstructed by Tumours in the Pelvis.—In the absence of Dr. Munro Kerr Dr. Russell gave a short outline of a case where Labour had been obstructed by a Myoma. Vaginal cœliotomy had been successfully performed.

# Reviews and Notices of Books.

*A Manual of Family Medicine and Hygiene for India.* By Sir WILLIAM MOORE, K.C.I.E. Seventh edition. Revised by Major J. H. TULL WALSH, I.M.S. London: J. and A. Churchill. 1903. Pp. 680. Price 12*s*.

THIS book is intended neither for educational nor for technical purposes and is not meant to take the place of medical assistance and advice, but is offered as a substitute where such aid is not obtainable and as a means by which improper treatment may be avoided. It will be remembered that the origin of this work was the offer of a prize by the Government of India for a manual suitable for the numerous individuals necessarily scattered over India in positions more or less remote from medical and surgical aid.

Much care and attention have evidently been bestowed by the reviser on the present edition; he has endeavoured to bring each section up to date as regards the causation, symptoms, and treatment of the diseases dealt with and yet we doubt if the utility of this issue will be as great as that of its predecessors. Major Walsh has introduced scientific terms into the book instead of describing medical matters in "popular language" as had been done in the previous editions, and here we venture to think that he has made a very serious mistake. In our experience this work has been hitherto chiefly used by the less well-to-do class of Europeans and by the Eurasian population in India and especially by the female and less well-educated portion of this population, and we think that the introduction of scientific terms and of the skilled treatment often advised distinctly detracts from its usefulness. Many of the suggestions made require medical education for their comprehension and much of the treatment we can only call dangerous when removed from the hands of a properly qualified medical man.

In our opinion a book has passed beyond the side of safety and beyond the requirements of the non-medical public which recommends the testings of his secretions by a sufferer, the passing of catheters in retention, and the injection of diphtheria antitoxin with sterilised hypodermic syringes; which advises the puncture of the drum in inflammation of the middle ear; which prescribes large doses of opium, strychnine, nitrite of amyl, and other poisons; which expects a layman to detect the increase of resonance and the alteration in the breath sounds in emphysema; and which mentions that no attempt should be made by amateurs to syringe out the womb (p. 553). Nor do we think that writing of butyric and lactic acid dyspepsia and of the bacilli which cause the fermentations can serve any useful purpose.

429 pages of the volume are devoted to the description and treatment of various diseases and 130 pages to accidents, injuries, pregnancy, and labour. In the paragraphs on inflammation and abscess of the breast we miss the prophylactic treatment which might so usefully be dwelt on in a

book such as this; more also might be said of the open-air treatment of pulmonary tuberculosis and less of the medicinal; and under diseases of the lung we look in vain for a description or recommendation of the useful pneumonia-jacket. We do not think that the editor has noticed the most recent evidence as to the maximum incubation period in measles and we doubt if the recommendation to use the sulphates in inflamed piles will meet with much approval.

The description of the contents of the Indian medicine chest is excellent and very useful. We wish also to draw attention to the section on the Management and Feeding of the Infant and to Chapter VI. which treats of the Preservation of Health in India, a chapter which may be read with real advantage by all those going to India and in which young medical men embarking on an Indian career will find hints and information not to be found so readily elsewhere. Would that the directors of our great steamship companies could be so impressed with Major Walsh's remarks (p. 593) on the subject of the accommodation for sick passengers as to make improvements. What can be more painful than to see the sufferings of debilitated patients on board ship? Hospital cabins with extra attendance and a good and suitable cookery would be the greatest boon to helpless invalids, especially when suffering from diseases of the bowel and lung. As Major Walsh writes, "Such invalids ought to be in a cabin alone, not only for their own sake, but for that of others."

Chapter VII.—the Management of the Sick-room—in which its appearance, aspect, cleanliness, conservancy, deodorisation and disinfection, and many other points are discussed—is a very useful one, and the suggestions for "dietetic preparations" for invalids are clear and simple.

The book is printed in clear type, is well bound, and is a comfortable one to hold. More care might have been taken in proof correction—even on the first page there is a printer's error in the heading of the chapter, and "he skin" at p. 183 reads curiously.

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*The Management and Medical Treatment of Children in India.* By EDWARD A. BIRCH, M.D. Brux. Fourth edition, revised and enlarged. Calcutta: Thacker, Spink, and Co. London: W. Thacker and Co. 1902. Pp. 498, crown 8vo. Price 10*s.* 6*d.*

IN this new edition the high character and usefulness of this work are both well maintained. The author states that circumstances would have prevented him from preparing this new edition but for the assistance he has received from his friend, Dr. E. H. Young of Okehampton, who placed his large experience and such spare time as a busy practice permitted ungrudgingly at his disposal. With Dr. Young's assistance and the free access to his extensive library every page of the work has been carefully considered. The first edition of the book appeared in 1879 when Dr. Birch was asked by the publishers to re-write "Goodeve's Hints for the Management of Children in India," and its object was to instruct as to the rearing of children in India and to enable the parents to meet the emergencies incidental to child-life in that country without supplanting professional advice. When, seven years later, a second edition was called for, Professor D. B. Smith and Professor de Chaumont of the Army Medical School, Netley, went through the whole of the text and made various suggestions which were acted on. The third edition (1894) brought forth many important alterations and some additions and Dr. Birch more than ever tried to convey "a simple idea of the principles which should guide the rearing of children in India and the management of their maladies in that country, feeling convinced that the mere enumeration of sets of symptoms and treatments is unsatisfactory, puzzling, and unpractical." The present issue is divided into four parts which deal successively with the Management of the European Child in Health in India, the Nature, Mode of Spreading, Prevention and Detection of the Illnesses of European Children in India, the Management of the European Child in Sickness in India, and the Administration and Application of Remedies to Children.

Each of the 59 chapters may be studied with benefit. But may we suggest that in a future edition those on fractures and accidents may well be extended so as to embrace all the points which are brought out in the useful "First Aid" manual published and used by the St. John Ambulance Association? The chapter on the examination of sick children is a valuable one and is full of hints enabling parents to study and to understand their children's varying conditions; that on convulsions is also much to be commended. Chapter XVI. deals largely with the reduction of the excessive heat of the body in fevers and we are glad to note the stress which is laid on the worth of the cold bath and the use of the wet pack and of oil friction, the latter being a proceeding the value of which is well known to the natives. The hints on the administration of remedies are very practical and the medicines recommended are such as can be easily prepared.

After very carefully perusing the book we feel that we can unhesitatingly recommend it. It is most clearly written; the advice is not only sound and such as is capable of being carried out by any mother of average intelligence, but the volume is also replete with useful information from cover to cover, and due caution is always observed when drugs which might possibly have untoward effects are recommended. The edition is not only a distinct advance on the last issue, but it is brought thoroughly up to date, and we hope that it may find its place in many homesteads which children make glad in India and the far East.

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*The Treatment of Tabetic Ataxia by Means of Systematic Exercise.* By Dr. H. S. FRENKEL, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland). Translated and edited by Dr. L. FREYBERGER, M.R.C.P. Lond., Honorary Physician to the St. Pancras and Northern Dispensary; late Pathologist to the Great Northern Central Hospital. With 132 Illustrations. London: Rebman, Limited. 1902. Pp. 185. Price 12*s.* 6*d.* net.

THIS volume is intended to be an exposition of the principles and practice of the "compensatory movement treatment" of tabetic ataxia. Dr. Frenkel's method of treating this disease by systematic and graduated exercise does not claim to influence the tabetic process itself, but to exert a beneficial effect on the most prominent symptom—the ataxia. Since this method of treatment was first introduced it has been improved and simplified. Dr. Frenkel's method of treating tabetic ataxia differs from that associated with the names of Professor von Leyden and Professor Goldscheider in two important points: it lays the greatest stress on the careful repetition of movements and not on athletic strengthening of muscles and, secondly, it requires very little apparatus.

The first part of the work gives an account of the symptoms and various types of tabetic ataxia, but the main part of the volume is occupied with a minute description of the movements and exercises employed by Dr. Frenkel in his particular method of treatment. This description is somewhat difficult to follow, as must necessarily be the case when expressing certain movements in words, more particularly as the exercises are very numerous. This difficulty is, to some extent, overcome by an excellent series of reproductions of photographs and diagrams. Doubtless the exercises could be learned by practical demonstration in a fraction of the time which would be occupied by attempting

to follow them from a written description, and we can only express our opinion that Dr. Frenkel has been but partially successful in explaining his methods by the publication of this work.

## LIBRARY TABLE.

*Artificial Infiltration Basins for Potable Water.* By J. GUST RICHERT. London: Hodgetts, Limited.—Mr. J. Gust Richert of Stockholm has republished in pamphlet form a paper recommending the more general use of artificial infiltration basins for the preparation of water for domestic supplies. The essence of the system is to make use of the soil for the purification of the water and three ways are mentioned in which this method is now practically used: (1) filtration through a porous river bed; (2) irrigation, similar to that used for the purification of sewage; and (3) irrigation basins possessing surfaces which can be cleansed. The use of the first of these methods is open to more than one objection and it is not likely that its use will be generally adopted in this country. The results obtained in France are deterrent. Nor does the second method possess any advantages over the system of purification by sedimentation and filtration which usually can be easily applied to upland waters. The use of cleansible infiltration basins, which is the plan adopted at the Gothenburg waterworks, might probably be utilised with advantage in some rural districts in this country. The system is really one of great simplicity. The reservoir, a basin, is lined with sand through which the water penetrates and then passes for some considerable distance through the ground. The surface of the sand requires cleaning at intervals in the usual manner and it is therefore necessary that at least two infiltration reservoirs should be provided. The water is purified by its passage through the sand and the soil and its temperature is lowered in summer and raised in winter in the course of its transit, so that by this means the water obtained in the collecting pipe is pretty constant in temperature. It is evident that only certain localities are suitable for such a system as that which has been briefly described. The ground itself must be free from poisonous matter and from animal pollution and a considerable area is required. When all these conditions are present the system is not without its advantages, the chief of which perhaps is the uniformity of the temperature of the water. For these reasons we have thought it worth while to call the attention of those interested in rural water-supplies to the question. The chief object of Mr. Richert's paper apparently is to advocate this system for the water-supply of London—a purpose for which it would be unsuitable for many reasons which it is not necessary to mention.

*Massage and the Swedish Movements.* By KURRE W. OSTROM. Fifth edition. London: H. K. Lewis. 1902. Pp. viii.–181. Price 3*s.* 6*d.* net.—This is a useful little book upon massage and Swedish movements which when employed in the right way are admirable adjuncts to ordinary medical treatment. Mr. Ostrom, we are glad to see, is very strong upon the point that massage ought to be fully controlled by the medical profession as it is in Europe. He is writing of massage as he found it in the United States of America where quacks of all kinds flourish in an even more brazen-faced manner than they do in England, but whatever may be the case in other European countries we are sorry to say that massage in this country is not fully controlled by the medical profession. Mr. Ostrom considers that massage and movement treatments should only be applied by educated and properly trained persons, with due regard to the physician's directions—an opinion with which we quite agree.

*Burdett's Official Nursing Directory.* Fifth year. London: The Scientific Press, Limited. 1903. Pp. 439. Price 3*s* net.—This the fifth annual edition of Sir Henry Burdett's useful Directory differs from that of last year in that a list of institutions supplying trained nurses for private cases has been added. This list, which will be found of value to practitioners, gives particulars of the number of nurses employed, the charges made for their services, and, in some cases, of the length of training required by the institution in question. The other features of the work remain the same as in last year's issue.

*A Historical Companion to Hymns Ancient and Modern.* Edited by the Rev. ROBERT MAUDE MOORSOM. Second edition. London: C. J. Clay. 1903. Pp. xxvii.–380. Price 5*s.* net.—We feel some diffidence in reviewing this work, for hymnology and medical science are at more or less opposite poles. But still Sir Thomas Browne wrote a real hymn, we mean his "dormitive" which was closely modelled on two hymns from the Sarum Breviary, while Henry Vaughan, also a medical man, has given us a number of devotional poems some of which are extremely beautiful, although they are perhaps not hymns in the sense of being rhythmical compositions fit for use in public worship. Mr. Moorsom's little book will bring home to those who read it how much the English Church owes to the compilers of "Hymns Ancient and Modern." It will also show how inferior are most modern hymns to ancient ones. We mean as regards their use in the public worship of the church, for as a rule they are all subjective. Of course, there are some fine modern hymns, notably Newman's "Praise to the Holiest in the Height" and Watts's "Jesus shall reign where'er the sun," and this last is mainly a paraphrase of Psalm lxxii. Mr. Moorsom's book is very interesting, and we only hope that the forthcoming edition of "Hymns Ancient and Modern" will be found to have taken note of some of his suggestions for a "Book of Common Praise."

*Disinfectants and Antiseptics: How to Use Them.* By EDWARD T. WILSON, M.B. Oxon., F.R.C.P. Lond. Fortieth thousand. London: H. K. Lewis. A folding card. Price 1*s.* per dozen.—This card of directions for the domestic use of disinfectants and antiseptics contains much that ought to be kept in mind by heads of families and the public in general and the essentials of the subject are explained in a plain and easy style. Hot air, hot water, and steam naturally hold the first place in the treatment of infected clothing or other articles of personal use. A variety of chemical disinfectants are also enumerated, including carbolic acid, chloride of lime, formic aldehyde, corrosive sublimate, Condy's fluid, and sulphurous acid. With regard to this last-named substance it is almost a pity that Dr. Wilson after recommending the burning of brimstone or sulphur candles, should go on to speak of cylinders containing the compressed gas, for these require more careful management than is to be expected from an ordinary householder. Condy's fluid is essentially a permanganate of sodium and not of potassium, a point to which we have already referred in THE LANCET of Dec. 1st, 1900, p. 1587.

*Applied Religion.* By W. WINSLOW HALL. London: R. Brimley Johnson. 1902. Pp. 143. Price 3*s.* 6*d.*—This book is divided into four sections which deal respectively with (1) Personal Applied Religion; (2) Social Applied Religion; (3) National Applied Religion; and (4) International Applied Religion. It contains also a proem and epilogue in verse and four hymns and four sonnets, one of each of which is devoted to each of the divisions of the book. The title "Applied" Religion is reminiscent of the same word used in connexion with mathematics or to one of the other exact sciences and its occurrence in the present connexion seems rather to imply that religion itself is not in its nature practical. The author of the book appears to be an original thinker and incidentally gives a form of prayer which may "suit some" as an alternative for

the Lord's Prayer, while he explains with great clearness texts of scripture which have given rise to much difference of opinion amongst theologians. The book has presumably been sent for our criticism because the author has a special message for members of the medical profession. He criticises the dress normally worn by them in his article on Applied Religion in regard to Clothing, and in his practical notes he gives an example of what dress should be worn by practitioners who possess the true faith. The strictly proper "medic," while he is working for his bread and grappling with disease and death, usually handicaps himself with a load of dingy, hampering, and complex "casements." Let these be contrasted with the dress of the middle-aged London "medic" who, we are pleased to learn, finds it easy to earn his living. This gentleman wears next the skin a single layer of cellular cotton with collar and cuffs of the same material, a loose jacket, vest, and trousers of serge, thin socks, "tan shoes," and a soft, well-perforated, felt hat. The diet of the same observer is also apparently given as an example of applied religious life. He breakfasts at 8 o'clock on oatmeal porridge and milk, one biscuit of pure protene, one and a half slices of bread with butter or jam, and two cups of "switzer" as adjuncts. His lunch consists of bread and cheese, with butter, jam, or fruit "as adjuncts." In the afternoon he has two cups of weak tea and he dines at 7 o'clock "off" cheese, protene biscuits, with potato or other vegetables and olive oil, some milk or suet pudding, and occasionally some fruit. One of the sonnets in the book is devoted to the censure of excessive eating and opens with the lines:—

> "Weird oneness! not a mouthful in excess
> But venoms me and hungers haggard poor."

The keynote to the epilogue is given by the first line, "Gabgabble not! do it!" This mysterious command, if we read it aright, is one that can be very well laid upon most persons who possess elaborate rules of living. By all means let the man with views about his clothing, his diet, and his creed put on what he likes, eat what he likes, and believe what he likes. But when he starts out as proselytiser let him be very certain that what he has to say is for the genuine good of his generation lest that generation turn round on him and forbid him to "gabgabble."

## JOURNALS AND MAGAZINES.

*The Practitioner.*—Mr. W. Arbathnot Lane is always interesting in his writings upon fracture—and generally iconoclastic. His contribution on the Mode of Production of Fractures of the Lower Extremity by Indirect Violence in the March number of the *Practitioner* forms no exception to the rule. Commonly accepted theories repeated from text-book to text-book and from generation to generation, the idols of succeeding series of examinees, are subjected to the searching investigation of Mr. Lane's science and are hurled to the ground. His article is accompanied by some excellent reproductions of skiagrams. Dr. Herbert S. French provides an instructive article upon Examination of the Blood, with some striking examples showing its wide range of value in settling diagnostic difficulties in certain cases. A case of double pyosalpinx, at first regarded as typhoid fever and recognised with certainty as deep-seated suppuration mainly by a blood count, is particularly valuable. Similarly the value of unusual prevalence of coarsely granular eosinophile cells comes out strongly in a case where the diagnosis hesitated between asthma and intra-thoracic tumour. Other shorter original articles and a careful review of recent work on disease of the liver, by Dr. Rolleston, combine with the editorial notes to make a capital number of the journal.

*The Journal of Physiology.* Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXIX., No. 2. March 16th, 1903. London: C. J. Clay and Sons. Price 7*s.*—The articles contained in this number of the *Journal of Physiology* are the following:—1. Contributions to the Physiology of the Lungs, Part I., The Bronchial Muscles, their Innervation and the Action of Drugs upon them. The authors of this article have been able to construct and to apply an oncometer to a lobe of the lung and to determine the changes in its volume during its movements in normal and artificial respiration. The text is illustrated by many tracings. It is shown amongst other points that the broncho-constrictor fibres run in the vagus, as do also the broncho-dilator fibres, and that the latter are particularly well developed in the cat. The sympathetic contains no broncho-dilator fibres. The action of many drugs is described. The article is a long and valuable one. 2. On the Uniformity of the Pancreatic Mechanism in Vertebrata, by W. M. Baylis and E. H. Starling. The authors of this article maintain that the secretion of pancreatic juice is excited in all the vertebrata by the action of an acid leading to the production of a substance named secretin in the epithelial cells of the intestinal mucous membrane. This substance is at once absorbed into the blood-vessels and is carried by the blood to the pancreas, on the cells of which gland it acts as a specific stimulus. 3. The Estimation of Urea in Blood, by Joseph Barcroft. The essential point of this article is that the globulins and other proteids are removed by precipitation with alcohol and subsequently by the employment of sodium hypobromite. 4. Remarks on the Dorsal Spino-cerebellar Tract, by C. S. Sherrington and E. E. Laslett. 5. Further Observations upon the Respiratory Exchange and Temperature of Hibernating Animals, by M. S. Pembrey. These observations have been made upon dormice and hedgehogs. The temperature of a dormouse awaking from torpidity may rise as rapidly as 19° in 42 minutes, the respiratory exchange is greatly increased, and the respiratory quotient rises to 0·75. The temperature of a hedgehog waking from its winter sleep may rise 20° in 120 minutes. The respiratory exchange is greatly increased; it may be 30 or 40 times as great as that of the torpid animal. The respiratory quotient rises to 0·78.

# New Inventions.

## APPARATUS FOR THE OPEN ADMINISTRATION OF NITROUS OXIDE GAS.

SINCE I first drew attention to the practicability of administering nitrous oxide *openly*[1] I have been endeavouring to make the process more simple and to devise more suitable apparatus. My aim has been to enable this system of administration to be carried out in positions of the patient's face other than those permitted by the face-pieces shown in THE LANCET of Feb. 4th, 1899, and at the same time to facilitate the suitable delivery of the gas.

For convenience of description the apparatus requisite for open administration may be regarded as consisting of two entirely distinct portions, each with its own definite function—viz., (1) the appliances by which the discharge of the nitrous oxide gas can be at will controlled; and (2) a special facepiece or inhaler for receiving and guiding the gas and air to the patient; in short, a delivery apparatus and an *open* inhaler. In the same manner the duties of the administrator are twofold; on the one hand he must regulate and control the supply of the gas by means of the delivery apparatus, and on the other he must see that the gas is safely conducted to the patient by means of the inhaler. The delivery apparatus may be a mere tube leading from a gasometer or an elaborate arrangement of cylinders and brasswork; whatever type one proposes to work with

[1] THE LANCET, Oct. 8th, 1898, p. 933, and Feb. 4th, 1899, p. 285.

should be capable of very rapid and smooth control and should be silent in its action. The employment of a bag is a convenience rather than a necessity; it assists in breaking the force of any unduly violent escape of gas; it also serves as a guide to the administrator, for by observing the degree of expansion caused by each fresh discharge from the cylinders it is easy to estimate the amount of overflow taking place into the inhaler. With a *reliable* delivery apparatus the discharge of gas can be regulated very accurately and the expenditure kept within very small limits. The employment of large gas-bags tends both to waste and to irregularity of delivery, for it is not so easy to increase rapidly, or to check suddenly, the flow of gas from the mouth of a large bag into the inhaler as it is from a small one. A bag of about one gallon capacity is in my experience the most satisfactory. The tube leading from the cylinders should by preference not be attached to the distal end or fundus of the gas-bag but be led into its proximal end or mouth (i.e., close to the inhaler), the bag hanging free (see illustration, B, D), so that the drag of the heavy indiarubber tube upon it may be avoided; in open administration the weight of the tube when attached to the fundus of the bag is very liable to hamper materially the smooth delivery, particularly when the head of the patient is in an awkward position or at the extreme stretch of the apparatus.

FIG. 1. FIG. 2.

Fig. 1 shows a simple arrangement for filling an open cup-shaped inhaler. Fig. 2 shows an open stop-cock and attachments, in section.

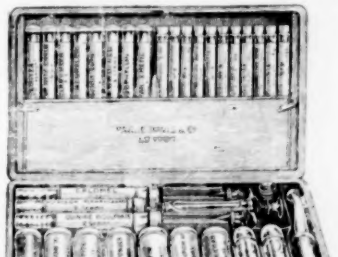
The mouth of the gas-bag can be most conveniently opened or shut by means of the open stopcock (A), devised by myself. It is formed of a T-shaped tube, the upright portion of which is connected with the bag, and one end of the crosspiece with the inhaler. Into the crosspiece is telescoped a specially shaped inner tube, which fits the outer closely at one end, but is flattened obliquely at the other towards the facepiece (as indicated in the diagram) so that there it merely occupies half the lumen of the outer (C). The effect of this is that in one position ("Gas on" in diagram) a double tube is produced for the admission simultaneously of gas and air; but by turning the inner tube round ("Gas off" in diagram) connexion with the bag is shut off so that the further admission of gas is prevented. This stopcock can be inserted into the top of an ordinary facepiece, and as it is open at both ends this will constitute a form of open inhaler. It is made entirely of metal, and as it contains no valves or other mechanisms, cannot get out of order without great violence, and may be cleaned and boiled as frequently as desired. Whatever form of inhaler be employed it must be made of gas-tight material and of such a shape that it can be accurately adapted to the patient's face and thus prevent leakage from below, whilst its sides should be sufficiently high to prevent loss from overflow. It will be observed from the foregoing that the administrator merely controls the supply of gas and insures its delivery to the patient, the air does not need management. Should the effects produced upon the patient not be commensurate with the quantity of gas employed it will almost invariably be found that the patient is not actually receiving the gas in consequence of the faulty application of the inhaler to the patient's face. At the commencement of an administration the delivery of the gas should be moderately free, but always gentle, the volume provided for each breath being gradually increased until the patient appears to be passing under its influence, when the supply should be reduced.

The open system of administration can be applied *viâ* the nose, the mouth, or through a tracheotomy tube with equal facility. Through the nose it is most conveniently carried out by means of an open stopcock fitted to a specially shaped nasal inhaler which accurately fits the patient's face, so that the nares remain in direct communication with the surrounding air through the permanently open central tube of the stopcock. *During the inhalation of the nitrous oxide it is not necessary to cover the mouth.* Although I have frequently demonstrated the feasibility of administering gas openly through the nose, it is only recently that I have made any serious attempt to apply the system in this manner. The effects appear to be identical with those produced when the gas is inhaled through any other channel, with one exception—viz., that the resulting anæsthesia appears to be produced with greater rapidity, frequently within 15 seconds, and that it can be maintained with a very small additional expenditure of gas and independently of any intercurrent mouth-breathing. The patients recover as rapidly after a ten minutes' administration as after an administration lasting only a single minute. They are never cyanosed and do not experience any unpleasant after-effects. I have employed the open method of administration on considerably over 5000 individuals, and am thoroughly satisfied that it is sound, useful, and trustworthy in the great majority of cases. The various forms of apparatus have been made for me by Mr. J. H. Montague, 101, New Bond-street, London.

GEORGE B. FLUX, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A.
Old Burlington-street, W.

## A POCKET EMERGENCY CASE.

THE pocket case shown in the illustration enables the practitioner to carry in a convenient form the drugs that are most likely to be required in an ordinary emergency and in country places will often save him the necessity of returning home during the visiting round for the purpose of making up some particular draught. The selection of drugs for filling the case may, of course, be varied according to individual



taste. The stock that I carry consists of 12 varieties of hypodermics (morphia, cocaine, atropine, pilocarpine, ergotinine, &c.), seven varieties of tablet triturates, three varieties of compressed tablets, and six varieties of chocolate-coated tablets named respectively "active cathartic," "migraine," "creasote compound," "opium," "rheumatic," and "cascara." I also take a hypodermic syringe, two needles, one exploring needle, a tube of Schimmel's needles, drachm bottles of ether and of distilled water, and a pipette for eye

drops. The list of medicines includes several narcotics and aperients and pepsine which will serve for digesting milk. Cocaine, atropine, and pilocarpine ophthalmic tablets can be dissolved in a few drops of distilled water and dropped into the conjunctival sac with the small pipette. I have, therefore, 30 remedies always at hand, in a condition suitable for immediate administration and packed in a morocco-covered case measuring six and a half inches by four inches by one inch. It is now more than two years since this appliance was first made to my design. In the manufacture and arrangement of it Messrs. Parke, Davis, and Co. have carried out my idea most carefully, and now, after a long trial by constant use, I venture to bring it under the notice of my fellow practitioners.

Folkestone. W. W. LININGTON, F.R.C.S. ENG.

## AN ADJUSTABLE SPRING TRUSS.

WE have received from Messrs. James Woolley, Sons, and Co., Limited, of Manchester, a sample of their adjustable truss. The ordinary spring truss is undoubtedly the form most extensively employed for the palliative treatment of inguinal and femoral hernia, but it has certain defects which detract considerably from its usefulness. The ordinary truss is made in certain fixed sizes which vary by half inches, and therefore a truss may be slightly too large or too small for an individual case; moreover, the angle at which the pad is attached is not necessarily the most suitable, for the individual variations are so great that what suits one patient may not suit another. The truss before us attempts to remedy these two defects and we must agree that the attempt is successful. The method by which these improvements have been effected is as follows: the end of the spring is slotted and the pad is attached to the spring by a screw working in this slot. In this way the pad may be moved horizontally more than an inch and when the correct position has been found a screw-driver (supplied with each truss) tightens the screw and so the position is maintained. In a similar manner the angle which the pad forms with the spring can be varied. The truss is made in various qualities—the cheapest form, suitable for hospital patients, costs only 24*s.* per dozen for single trusses. We consider that the device is ingenious and fully answers its purpose, and the remarkable price at which it is supplied should lead to its extensive employment.

## IMPROVED LEG SUPPORT.

Messrs. Reynolds and Branson, Limited, of Leeds, have made for me a leg support of enamelled iron, shaped somewhat like a huge squat stethoscope. It is placed under the patient's heel when bandaging the leg or for other purposes. It will be found useful in hospitals and consulting-rooms.

Its weight and broad base make it quite steady when used on a bed and it can, of course, be kept perfectly aseptic. At the Lincoln Hospital it has earned the name of "Sister Jane," and frequently enables one nurse to do what otherwise would be the work of two. The price is 3*s.* and the postage 6*d.*

Lincoln. W. A. CARLINE, M.D. Aberd., M.R.C.S. Eng.

# Looking Back.

FROM

## THE LANCET, *SATURDAY*, APRIL 2, 1825.

### REMARKS ON THE PRESENT STATE OF THE MEDICAL PROFESSION IN FRANCE.[1]

*Chambers of discipline* are to be established in each of the departments, to watch over and examine attentively the professions connected with medicine; which chambers are to be composed of certain doctors in medicine and surgery, and apothecaries of the first class, with the *prefect* of the department, and the *mayor* of the town, and these are to take the precedence of the others.* Moreover, the said chamber is vested with authority to censure and punish the members of the medical profesion, whether physicians, surgeons, or apothecaries, whenever they shall be guilty of such naughty tricks as may tend to lower the said profession in the estimation of the public!† A pretty precaution truly; after having by this very law degraded the profession *ad infinum*, the practitioners are to be punished should they attempt to dishonour themselves.

Next we come to the nature of the punishment to be inflicted by the said Chamber of Discipline, and this is no joke, as we shall presently see. Fines are to be levied on those unfortunate persons who may come under the inquisitorial authority of the Chamber, from *five hundred to three thousand francs*, according to the discretion of the said Chamber; but in case a repetition of an offence should happen, then the maximum must be paid. If, however, the crime should be of a grave nature, the guilty person is to be interdicted by the Chamber from practising for a period between *five and ten years!* Monstrous injustice! to place such immense discretionary power in the hands of a few men who may be actuated by jealousy to impeach the character of their rivals; the injustice is only equalled by the absurdity of referring, for decision, a professional dispute, breaches of etiquette, and supposed derilections of duty, to the *Prefect of a Department* or *Mayor of a Town*. This institution makes a near approach to the celebrated Star Chamber of his Majesty's illustrious namesake.

The domiciliary visits of the Medical Police have also become great annoyances, and no wonder, as a medical man does not know on what day or at what hour he may have his dwelling ransacked by a set of fellows, under the name of the medical police. These customs are altogether at variance with our notions of liberty, yet it appears that some of the French people are pleased to think they are living in its full enjoyment, as they rapturously applauded the heroine of a Parisian theatre when she sung

"L'air de servitude est mortel aux Français."

A long letter, complaining of this very grievance, has been addressed by a physician to the Editor of the Gazette de Santé, in which it is stated, that in some parts of the country apothecaries are not very numerous, and that to save time, in urgent cases, it is no unusual thing for physicians to take some medicine in their pockets, and that although they may have only two or three drugs in the house and keep no shop, yet that they are visited also, in a very unexpected way, by the said medical police.

If other classes of subjects are to be treated in the same way as his most Sacred Majesty Charles, *par la grace de Dieu*, has thought fit to treat the disciples of Æsculapius, we have no doubt but that they will soon wish him *au diable*.

* PROJET DE LOI, 1825.

CHARLES, *par la grace de Dieu, Roi de France et Navarre, a tous ceux qui ces presentes verront, salut, &c.*

Titre II. Art. 9. Le prefet du departement et le maire de la ville cheflieu en feront partie de droit. Le prefet, et à son defaut, le maire, aura la presidence.

† Art. 10. Les chambres de discipline pourront reprimander et censurer tout medecin, chirurgien, ou pharmacien qui aurait commis de fautes tendant à priver sa profession de l'estime et de la consideration publique.

[1] A portion only has been transcribed.

# THE LANCET.

*LONDON: SATURDAY, APRIL 4, 1903.*


## Small-pox and the Responsibilities of Sanitary Authorities.

AFTER a four days' hearing before Mr. Justice GRANTHAM and a special jury an action in the King's Bench Division has been decided raising questions of considerable importance concerning the prevention and isolation of small-pox and the legal responsibility of sanitary authorities for damages arising out of an epidemic. Early in December, 1901, a case of small-pox occurred in New Brompton, a densely populated town of 19,000 inhabitants adjoining Chatham and Rochester. The urban sanitary authority of the district, the Gillingham district council, having no accommodation for small-pox in its infectious hospital or elsewhere (not having had any small-pox in its district for 17 years), accepted the offer of an unused stable situated about a mile out of the town for the temporary reception and isolation of the patient who was removed there on Dec. 5th. Two other cases were notified in the town and these were also given the same temporary accommodation. The stable was situated on a strip of ground in a sparsely populated district and complied in site with the Local Government Board regulations in that there were only 34 as compared with a possible maximum number of 200 persons living within the quarter-mile radius, and only 120 inhabitants as compared with a possible maximum of 600 within the half-mile radius. The plaintiff, STEPHEN CHAPMAN, was a market gardener living in a house 200 yards from the stable and his land abutted on one end of the strip of ground on which the stable was situated. One of the plaintiff's children developed symptoms of small-pox on Dec. 18th; the child was seen by a medical man on the 20th but the illness was not notified until the 23rd. The disease rapidly spread to other members of the family with the terrible result that out of a family of 10 persons six developed the disease, four of whom died. In these circumstances the plaintiff sued the defendants, the Gillingham district council, for alleged injuries done to him and his household by the introduction of small-pox and claimed damages.

The statement of claim only charged the council with *negligence* in the choice of the site and in the management of the temporary shelter, but the judge allowed the claim to be amended to cover the larger issue as to whether the bringing of a small-pox case to the neighbourhood of the plaintiff in such a way constituted a *nuisance*. The defendants denied negligence and pleaded that they were acting under statutory powers and the case was argued at considerable length. The judge alluded to some irrelevant decisions which were given in the reign of GEORGE III., but as a matter of fact the legal position was fairly clear. It was laid down by Lord BLACKBURN (HILL *v.* Metropolitan Asylums Board) in 1881 that a small-pox hospital so conducted as to spread infection to persons on adjoining property is a nuisance. Four actions have been tried since that time: FLEET *v.* Metropolitan Asylums Board, in 1884; Attorney-General *v.* Mayor and Corporation of Manchester, in 1893; the Guildford case, in 1895; and HARROP *v.* Mayor and Corporation of Ossett, in 1898. The last two were actions to restrain by injunction an alleged future nuisance by reason of the proposal to build a small-pox hospital in a certain place. The first two actions were to compel the authority to remove a hospital already built. The effect of the decision in all of these cases was to decide that although a small-pox hospital might be a source of danger if badly conducted, if well managed it did not constitute a nuisance—that is to say, a source of appreciable danger to the public. In each instance the theory of the possibility of the aerial convection of small-pox was put forward and was combated by expert witnesses. In each case the theory was held to be not proven and this must, we suppose, be considered to be the legal attitude on the matter at the present time. The late Lord BRAMWELL, we believe, committed himself to a statement that this theory was only a matter of opinion that "something might be communicated to somebody somewhere," but he clearly did not understand what he was talking about, while evidence in support of the view that he was ridiculing has since multiplied. The Gillingham case differs from all the previous cases in this respect, that damages were claimed from a sanitary authority for having created a nuisance in a sparsely populated district by removing to it a case of small-pox which arose in a densely populated part of the town and because it, or its agents, had, it was alleged, neglected to employ reasonable care in the management of the temporary isolation shelter. Mr. Justice GRANTHAM in his summing up to the jury expressed a hope that the case would be a warning to all local bodies in the kingdom to make adequate accommodation and preparations beforehand for the isolation of small-pox. The jury found for the plaintiff on both counts, with costs, assessing the damages at £250. All Sir WILLIAM GRANTHAM'S remarks were not so sensible as the one we have printed, for beginning with the not wholly original and novel statement that "an ounce of fact is worth a ton of theory," he went on to account for the infection of small-pox. The infection could, his lordship remarked, light upon the growing cabbages from a distance and, being conveyed to London, might thus propagate the disease, even to the persons of himself and the jury. We should like to know what are the facts upon which his lordship was relying for his pathology.

The finding of the jury was in the main issues in accordance with the evidence before the court and we fully concur with Mr. Justice GRANTHAM'S remark that the case should be a lesson to all local bodies, though in a somewhat wider sense than that which he apparently attributed to it. It undoubtedly behoves them to be prepared for the isolation of small-pox which may at any moment arise in their midst even after long immunity. But it also behoves them to consider very carefully their legal position and in this respect they seem to be on the horns of a dilemma. Firstly,

as regards permanent sites for hospitals, it was expressly pointed out by counsel on both sides that, whatever the moral obligation, a sanitary authority is not obliged by law to make—and is therefore not protected by law in making—any provision for the isolation of infectious disease or for the removal of cases as they arise. The Public Health Act, 1875, sec. 131, is only permissive and it has been ruled that the discretion in the use of the general powers thereby conferred must only be exercised in strict conformity with private rights. The legal actions to which we have referred above indicate the extraordinary difficulties which are experienced and the risks which are incurred in obtaining suitable and unopposed permanent sites for small-pox hospitals. Secondly, as regards the removal of sporadic cases in emergency, the effect of this case is to confirm the ruling of Lord BLACKBURN that the removal of a patient from the place in which the disease arose into a new locality by a sanitary authority constitutes legally a nuisance and renders the sanitary authority liable to an action for damages. Nor is it difficult in circumstances which arise in emergency to prove legal negligence, because in hasty action of this kind the site selected and the precautions taken are generally of an inadequate or makeshift kind, and apparently nothing short of a fully equipped hospital standing by itself in several acres of ground with no habitations within two or three miles would satisfy a jury that no negligence had been committed. As the law now stands a sanitary authority is under no legal obligation either to provide accommodation or to remove a case of small-pox and no action can be taken against it for allowing the case to remain and to result in a spread of the disease in a densely populated district. On the other hand, if an emergency case be removed to a relatively isolated spot outside the town the authority can at once be proceeded against. Why should not statutory powers be conferred on the Local Government Board to entitle local bodies, subject to the sanction of the Board, to acquire land compulsorily? while local bodies ought to be secure from actions at law arising out of the use of hospitals erected under the sanction of the Board.

## Clendinning *v.* Byers.

THERE has rarely been a more flagrant instance of the extent to which a medical man may be put to anxiety and expense, or a graver example of the risks of professional damage that may be inflicted, by a designing and unscrupulous woman, than was provided by the case of CLENDINNING *v.* BYERS recently heard at the Belfast City Assizes. We can assure Professor BYERS that, while all his profession sympathise with him on account of the worry and trouble to which he has been exposed, at the same time they congratulate him upon the decisive way in which he insisted upon insinuations made against himself being brought into the fullest light and upon the absolute integrity with which his reputation emerges from the case—a case in which the instigator of the action, when it actually came to the court of law, did not attempt to substantiate the accusations. The complete failure on the part of the plaintiff is, however, in such a case as this but a partial consolation to the defendant where the action is for breach of promise, where the plaintiff is a nurse, and where the defendant is a distinguished obstetrician. The probability is that not a penny will be forthcoming towards the costs of the case from the party responsible for its disgraceful institution. Moreover, proceedings of this kind are apt to leave a cloud hanging vaguely over all the names concerned. Numbers of careless people never investigate the actual facts of a case of which a report may catch their eyes in a newspaper. It matters little to them whether a medical man who is charged with conduct particularly unbecoming in one of his profession is found guilty or comes out of the case with an unspotted reputation. To these casual readers he has been "in a case" and until their memories fail altogether to recall the circumstances some of them may be found to suggest that "perhaps there was something in it." There was nothing in the case of CLENDINNING *v.* BYERS, as will be seen by the following details.

In July, 1902, Professor BYERS'S engagement to a member of an old Belfast family was announced. Soon afterwards he, his *fiancée*, and their relatives received anonymous typewritten letters of a discreditable nature. In August he received from a nurse whom he had occasionally employed a letter in which she expressed her astonishment that he should be about to be married to somebody else as he had won her affections. Professor BYERS regarded this remarkable epistle as the result of a hallucination or as a practical joke and accordingly took no notice of it. He was unwise to be so good-natured. Shortly after he received a letter from a solicitor who, writing on behalf of the nurse, drew attention to the fact that her letter was unanswered and threatened the institution of an action for breach of promise of marriage. This gentleman was referred to Professor BYERS'S legal advisers. Notwithstanding this the solicitor served a writ on Professor BYERS at his own house, not through his solicitors, on Sept. 4th, and four days later an appearance on behalf of the defendant was entered by his legal advisers. About this date Professor BYERS was married and on his return from the wedding trip he found that all kinds of stories were in circulation as to sums of money paid by himself and friends to stop the nurse's action. Needless to say these rumours were entirely false, the defendant attempting to have the action brought on at the earliest date. The plaintiff appears to have desired to postpone it in every way possible—a course of conduct for which no explanation can be offered but malice. The vagaries of Irish law appear to have favoured these evil designs. An application to the Court of King's Bench, Dublin, on the part of the defendant's solicitors, based on an affidavit of his declaring the charge to be without a particle of foundation and requesting a change of *venue* to insure early trial, was granted by the three judges presiding. The Court of Appeal in Dublin, however, in February of this year reversed the appeal, three judges then deciding the contrary to the previous decision of three other judges. Notice of trial was now given by the plaintiff's solicitor and on the defendant's side full preparations were made for the trial when, at the eleventh hour, the solicitor for the plaintiff intimated that no further proceedings would be taken in the matter. The

defendant's solicitors accordingly entered the case for trial on his behalf and on March 23rd, it came up for hearing at the Belfast City Assizes and judgment was of course entered for the defendant. The Solicitor General for Ireland, who represented the defendant, being permitted by the judge to make a few remarks, observed that from the very first, both verbally and by affidavit, his client had denied that he ever gave any promise of any sort or kind to the plaintiff. Their relations had been solely and purely those of physician and nurse. A report, he said, was in circulation that the plaintiff's absence from court was due to some arrangement or compromise between her and his client. He wished to deny absolutely the existence of any such arrangement, the suggestion of which probably emanated from the same source as the institution of this unfounded action for breach of promise. Lord Justice HOLMES remarked that as the plaintiff did not appear or send a representative he presumed she had no cause of action, and judgment was entered for the defendant with costs.

Medical men, from the very nature of their profession, are exposed to such attacks on the part of unscrupulous women. In the case we have just recounted it seems very clear that the charges against Professor BYERS of breach of faith were totally unfounded and that in bringing them everything was so conducted as to keep them hanging over his head as long as possible. In fact, knowing her accusations to be false the plaintiff desired the opportunity for the demonstration of this to be put off so that in the meantime as many people as possible might be deluded into believing them. Perhaps she thought that the circumstances—for example, her victim's position as an obstetrician and his recent marriage—would lead in the end to some compromise. If so, she was mistaken, for from beginning to end Professor BYERS denied the woman's story *in toto* and pressed for an immediate investigation in a court of law. We do not know whether Professor BYERS is a member of any medical defence union, but in cases such as CLENDINNING *v.* BYERS a strong letter from the solicitors representing such a body is more likely than anything else to put an end to wicked machinations. The designing female, knowing the absence of corroborative evidence to her story and feeling herself pitted not against an anxious professional man but against a cold-blooded coöperation, throws up the game. Delays will bring her no nearer the longed-for compromise and she retires in haste from an untenable position.

We desire to close by joining in the hearty congratulations of the medical profession to Professor BYERS upon the result of the case.

## The Testing of the Vision of School Children.

IN the report of the medical officer of the London School Board Dr. JAMES KERR deals with the vision of school children and discusses the work done by the eight ophthalmic surgeons who were appointed temporarily last April and who have just sent in their returns. Some interesting facts have been elicited and the conclusions that may be drawn from the investigation afford fair promise that if continued for a succession of years it will bear good fruit in the future. At all events the report of the medical officer was submitted to the Board by the General Purposes Committee on March 13th. It appears that on receiving the report of the medical officer the chairman of the General Purposes Committee moved:

"That the Board authorise the appointment of a certain number of oculists for one year—viz., one for half-time at £250 and five others for three half days a week at £125 each, so that 20 school sessions a week may be given to this work."

The consideration of the appointment of ophthalmic surgeons was, however, adjourned by the Board at the meeting of March 13th. It is remarkable that the percentage of children with normal vision expressed by the figures $\frac{6}{6}$ (which indicate that the child can distinguish separately objects subtending an angle of one minute) returned by the ophthalmic surgeons is in every instance higher than the proportion given by the teachers two years previously. Thus in the examination made by the teachers in 1900 the percentage with normal vision in Standard I. was 32 and in that made by the experts in 1902 54; in Standard II. the teachers obtained 40 and the experts 61; in Standard III. the proportions were 45 and 70; in Standard IV. 50 and 73; in Standard V. 53 and 75; in Standard VI., 56 and 78; and in Standard VII., 61 and 80. Possibly the greater experience of the examiners, as well as a difference in the amount of light and the time occupied in the examination, and perhaps fear of the teachers, may account for the very considerable discrepancy which is observable. On the other hand, the results of the examination made by both the teachers and the experts in regard to bad vision, $\frac{6}{18}$ or worse, were in very close agreement, varying in the different standards according to the teachers from 8·4 to 9·9 per cent., and according to the experts from 8·5 to 11·6 per cent. A certain relation between defective visual acuity and low position in school was observed, showing that the older retarded or lower less intelligent group present more defective vision than the younger precocious group.

The conclusions as to visual conditions in school children arrived at by Dr. KERR are as follows:—1. The percentage with normal vision increases with every year of age and standard of advance during school life, reaching 80 per cent. with Standard VII. 10 per cent. all through school life have "bad" vision—that is, can only see at about 20 feet or less what a child with normal vision can see at 60 feet, and this remains nearly a constant proportion. The greater part of the defective vision of school children is of most importance educationally in the first half of school life and is owing to slight defect which gives imperfect but fair vision, due probably both to mental and to ocular conditions. Very bad visual acuity ($\frac{6}{36}$) or worse, so that at a distance of 20 feet letters can be read which should be legible at 100 feet or more, occurs only in a small proportion, increasing regularly from 1·5 per cent. in Standard I. to 3·5 in Standard VII. The causes of the impaired vision are accident, disease, spasm, and myopia. Dr. KERR very justly observes that the percentages of defect appear to vary more with the social and nutritive conditions of the children and with racial peculiarity than with any school conditions, and, further, that school effects from fine work and poor illumination are more likely to show themselves in general

nerve strain and unhealthy neurotic nutritional conditions than in very defective visual acuity during school life.

That many of the defects found in school children are remediable by appropriate treatment, whether by glasses or otherwise, is indubitable, but the poor do not seem to be able to take advantage of the present system of hospital relief, hard-worked and assiduous as the officials of these institutions are. The attendance at a hospital means the loss of half or even a whole day which the parents can ill afford, and then if glasses are required their cost is to be considered, the result being that the children of the very poor who require it most reap little benefit. In this report it is estimated that from 10,000 to 20,000 children annually in London ought to have detailed medical examination and, supposing it to be required, treatment, if the best educational results are to be obtained and their future efficiency as citizens is to be promoted. At present the school authorities cannot be advised to go further in individual cases than the detection of defective vision and advising as to the necessity of seeking improvement. It might ultimately become desirable to examine children as to their refraction and to treat this alone, referring all other cases to seek medical advice, but for this even the ophthalmic surgeons who drew up the report do not think the time is ripe.

# Annotations.

"Ne quid nimis."

## THE KING AND QUEEN AND HOSPITAL SUNDAY.

IT is with great pleasure that we have learnt the intention of Their Majesties the King and Queen to be present at the service in St. Paul's Cathedral on June 7th, the Sunday preceding Hospital Sunday. The interest which the King takes in the hospitals of the metropolis is well known, for has not the splendid Hospital Fund for London been created by him and watched over by him? But we are particularly glad to announce the intention of His Majesty and his Royal Consort to be present at a service in St. Paul's Cathedral in behalf of the Metropolitan Hospital Sunday Fund, as this action will be a very evident proof that he has the goodwill of the older charity at heart. The two Funds are not rivals, but work together hand in hand for a common object and it is a surprising fact that the annual receipts of the Metropolitan Hospital Sunday Fund have been larger since the King's Hospital Fund for London has levied its tax upon our citizens. H.R.H. the Prince of Wales, presiding recently at the annual meeting of the General Council of the King's Hospital Fund for London, pointed out that the efforts of that Fund "had not in any way damaged the work of the Sunday and Saturday Funds." This practical proof of harmony is emphasised by the King's intention to be present at the service in St. Paul's Cathedral next June.

## THE THEORIES OF IMMUNITY.

WE publish this week a letter from Dr. Hugh Woods with reference to Dr. A. S. F. Grünbaum's Goulstonian Lectures now appearing in our columns. Quite possibly the comments in the letter upon Dr. Grünbaum's lectures express the feeling of a large body of our readers who may indorse what Dr. Woods has said in spite of his not over-courteous manner of saying it. In our opinion the attitude taken up by Dr. Woods is entirely antagonistic to the progress of medical science and we are glad of the opportunity that he gives us of explaining what we conceive to be our editorial duty in respect of such articles as the last Goulstonian Lectures. Manifestly Dr. Grünbaum's lectures demand a highly specialised training for their comprehension, and Dr. Woods strives therefore to show that they are ridiculous and that we are in much the same case for placing such unassimilable fare before the hungry mouth of the medical practitioner "who wants to know enough of the processes of disease to be able to combat them." Quite so, but all medical practitioners do not combat the processes of disease in the same circumstances. The great profession of healing in every country and in all sorts of environment is fighting as one man against disease; the object of every member of that profession is the same, but his necessary equipment differs according to the part that he plays in the contest. Dr. Grünbaum's lectures will be of no use to the practitioner who looks in them for clinical advice, but will any practitioner follow Dr. Woods's lead and do so? Yet every practitioner nowadays must feel respect for the attempt that is being made by modern pathology to reconcile science and practice in medicine. Certainly the practitioner "wants to know enough of the processes of disease to be able to combat them," but equally certainly all real students of medicine desire to raise in every direction possible the practice of medicine from the empirical to the exact. The science of medicine, owing to its developments in the directions of psychology, bacteriology, physiology, and chemistry, can no longer be studied as a whole by any one man. The practitioner must practise and the theoriser must theorise, the clinician will call attention to bedside experience, and the bacteriologist will assist diagnosis or suggest treatment by cultural experimentation; and all must do their work for the glory of science and towards one common good end—that of bringing science and the practice of medicine into line so that disease may be fought systematically. Attempts to sneer at highly specialised bacteriological work because this work is not, and cannot be, comprehensible to those who are not bacteriological students are stupid. (It is Dr. Woods's own suggestion.) It is easy to raise a laugh against the bacteriologist, whose phraseology is a very jargon to the uninitiated, but the real laugh, the laugh at the end, is against the person who for the sake of a gibe at what he cannot follow would attempt to obstruct the course of scientific medicine. We have published Dr. Grünbaum's lectures on immunity with the full knowledge that their teaching was of too technical a nature to be appreciated by many of our readers. This is no sort of discredit to our readers, for it is no more possible nowadays for the man in busy practice to follow the details of modern pathology than it would be for him to build his own infectious hospital, to draft his own sanitary legislation, or to conduct his own association for medical defence. Life is too short for everyone to know everything, but because Dr. Woods cannot understand what Dr. Grünbaum has been saying in our pages and at the Royal College of Physicians of London, he must not assume that it has no meaning. And still more must he not assume that elaborate attempts to associate the sister sciences with medicine have no practical value.

## THE BATTLE OF THE CLUBS IN NEW ZEALAND.

A MEETING of Auckland medical practitioners was held in Auckland, New Zealand, in January last in order to make a stand against the friendly societies' endeavour to reduce medical fees. The friendly societies are forming a dispensary in Auckland and have notified club surgeons that unless they accept a fee of 14s. per member per annum without medicine they will advertise for new surgeons. At a meeting of the Auckland Section of the New Zealand Branch of the British Medical Association the following

resolution was carried unanimously and signed by all present and subsequently by most of the practitioners in the city :—

We, the undersigned medical practitioners of Auckland, agree to support in every way the action of the medical officers of friendly societies in resisting the determination of the Friendly Societies Conference to reduce the medical fees to 14s. per member per annum without medicine, and we pledge ourselves not to accept less than 16s. per member per annum for such services.

We bring this matter before our readers specially because we are asked to inform them that should the clubs obtain medical men by advertisement to work for them on the rejected terms those practitioners would not be recognised by the local medical profession. It will be seen that the annual capitation payments in New Zealand exceed those received from club patients in this country, but the completely different conditions account for the discrepancy.

## BORIC ACID AND POTTED SHRIMPS.

IN THE LANCET of March 14th, p. 749, an abstract is given of the views of Dr. G. Merkel of Nuremberg as to the use of boric acid. In medicinal doses he states that it "produces irritation of the gastro-intestinal tract" and "is contra-indicated in the case of invalids or persons in delicate health." Nor should it, he thinks, be used as a preservative for milk and "canned" foods, but food "preserved" with it may be taken sparingly by healthy persons, but never, in his opinion, by invalids. It may be interesting, therefore, to draw attention to a decision given by Mr. J. M. Yates, K.C., the stipendiary magistrate for the Manchester division of Lancashire, a few weeks ago. For a long time past there has been a controversy as to the use of boric acid as a preservative for potted shrimps which has deeply interested Southport, a great centre of the shrimp trade. Mr. Yates's decision was given in the case of a fish and poultry dealer, against whom a summons was taken out by the Lancashire county council under the Sale of Food and Drugs Act for selling to an inspector "to his prejudice a pot of shrimps which were not of the nature and quality of that demanded." It was admitted that seven and a quarter grains of boric acid had been added to the shrimps. The question, Mr. Yates said, turned on the first subsection of the sixth section of the Act which "enacts, in effect, that if the added ingredient is not dangerous to health and is added of necessity so as to make the article in a state fit for commerce and to be carried, or is not added fraudulently to conceal the inferior quality of the article, then it is no offence." It was agreed that the shrimps were not inferior and that the "boracic acid," as it was called during the trial, was not added fraudulently. The real questions, Mr. Yates said, to be decided by him were these. "Is boracic acid not injurious to health in the quantity used here? Is it a necessary ingredient?" Mr. Yates then proceeded to give a sketch of the way in which the shrimp trade is carried on, which may be information to some people. Southport is the headquarters of the trade. The local shrimps, for which Southport is famous, are used, but when the supply fails they are imported from Holland to make up the deficiency. The Southport shrimps are boiled in the fisherman's house, the Dutch shrimps in the boats as soon as they are caught. The former are picked or shelled—i.e., the outer covering is separated from the body of the shrimp—by the fisherman's family, the latter are similarly treated in a factory under Government inspection. If a preservative is used it is added as soon as they are picked, and the Dutch shrimps are forwarded to Southport to be potted, after which they are sent to all parts of the country. There is naturally a prejudice in this country in favour of our own shrimps rather than of any others, but the magistrate said that "it was proved that Dutch shrimps are caught and picked under more sanitary conditions than English ones in consequence of the Dutch laws." Analysing the medical evidence, he said that while Dr. A. S. F. Grünbaum, Dr. Berry, and Mr. E. Sergeant said that boric acid was injurious to health, retarding digestion and hardening the tissues, none of them ever knew of a case where the health had suffered except Mr. Sergeant who said that it gave him dyspepsia. Professor R. W. Boyce, from his laboratory experiments, said that it was injurious. Mr. Collingwood Williams would allow a little to be used and he considered Dr. Grünbaum's experiment, by which "it was sought to show that boracic acid only destroyed the putrefactive germ and did not destroy the pathogenic," open to unanswerable criticism. "For the defence most striking evidence was given by the medical witnesses, representatives of the principal hospitals in Liverpool." They had not only taken boric acid in larger quantities than was used with the shrimps without ill-effect to themselves, but they had prescribed it for long periods without injury and with benefit both for adults and young children. Dr. Macalister stated that he had prescribed it with good results for young children suffering from wasting diseases, where retardation of digestion might have had serious effects. Evidence was given which "proved" that it was not cumulative. The magistrate came "to the conclusion that the boracic acid used was not injurious to health." It had been employed "for ten years as a preservative for shrimps and no case of injury to health arising from its use was proved by the prosecution." The second question as to its being requisite for the preparation of potted shrimps as an article of commerce in a state fit for carriage was answered in the affirmative. It seems that to put the potted shrimps on ice or in a cold storage "causes the butter in which they are potted to split and the shrimps to get green," and according to the unaminous testimony of the largest potters in the trade, and also of the large wholesale and retail dealers, "they could not be guaranteed to keep more than two days in all weathers" without preservatives. Possibly this legal decision will not settle the question as to the advisability of using any preservatives, but, at all events, according to the evidence given, it does not appear that much harm is likely to be done by the amount of boric acid and borax, under the name of glacialine, used in the potting of the Southport shrimps. It may be pointed out that the Departmental Committee on Food Preservatives proposed to make the addition of boric acid lawful in some instances, but that the amount was not to exceed 0·5 per cent. When will the recommendations of this committee, made more than a year ago, receive the attention of the Government?

## SERIOUS ACCIDENT TO PROFESSOR COLZI.

UNDER date Florence, March 29th, one of our Italian correspondents writes: "The Tuscan Medical School has just lost the services, it is feared for ever, of one of its brightest and most beloved colleagues. Dr. Francesco Colzi, director of the staff of clinical surgery at the Hospital of Santa Maria Nuova, was on the afternoon of March 25th taking his turn at a pigeon-shooting match at the monthly club meeting in the Cascine, when, by an almost unaccountable accident, his gun exploded and lodged its charge under the right arm, causing comminuted fracture of the humerus and making havoc of the axilla. He fell, but raised himself immediately and, touching the seat of the wound with his left hand, said: 'Quick! Give me a bandage or I'll faint.' The bystanders, among whom were the Duke di San Clemente, the Marquesses Torrigiani and Cosimo Ridolfi Antinori, Dr. Roster and Dr. Borgheggiani, with other noted shots, produced among them a strap with which Professor Colzi, almost unaided, bandaged the limb. He was then removed with all speed to the Hospital of Santa Maria Nuova, telling the 'Misericordia' as they laid him down to bid the surgeons lose no time in operating. He was wonderfully cool and while the arteries were being ligatured in the hope that amputation might be unnecessary he kept telling the surgeons

not to waste time as the arm must go. They hesitated to amputate, however, in view of the comminuted fracture till Professor Bassini should arrive from Padua; and so they watched all night by his bedside, relieving each other by twos. On the next morning, the 26th, Professor Bassini joined them and after a long examination of the wound, conducted by the patient's desire without anæsthesia, he coincided with his Florentine brethren that amputation should not be performed as, among other reasons, the warmth of the right hand proved that the circulation was being restored. Professor Bassini thereafter returned to Padua, leaving his intrepid patient in the hands of his colleagues who are now beginning to hope that the arm may be saved, though, it is feared, never likely to be available for the splendid work associated with the name of Colzi. The scene at the hospital all this time has been inexpressibly touching, patient after patient in all stages of cure or convalescence importuning the official staff for news of their beloved benefactor, while the King is kept informed by His Majesty's express desire of the professor's condition. As I write the latest bulletin has been handed in to me, dated 9 A.M.: 'Tranquil night. The general state is good. The conditions of the limb are unchanged.' Professor Colzi, I may add, is only in his fiftieth year, having being born at Monsummano barely half a century ago. His record in the radical cure of hernia is unequalled in Italy and scarcely surpassed in Europe, while in other departments of surgical intervention his reputation stands exceptionally high."

## THE PATHOLOGICAL CHANGES ACCOMPANYING TRIGEMINAL NEURALGIA.

IN the *Journal of Nervous and Mental Disease* for February Dr. Sidney Schwab gives an account of the systematic study of six Gasserian ganglia which had at various times been excised in cases of severe and intractable facial neuralgia. In three of the cases the ganglia were removed before any peripheral operation, such as excision, had been performed on the branches of the trigeminal nerve. All these specimens were fixed and hardened while fresh and sections were prepared according to the latest methods, including Nissl's and Held's methods, which are in use for revealing changes in nerve cells and nerve tissues generally. Complete serial sections were made of every ganglion parallel to the largest diameter. The following were the typical changes found in these six cases. The nerve cells in the peripheral parts of the Gasserian ganglion showed changes varying from a slight degree of chromatolysis to profound changes of total cell disintegration and nuclear migration. In three of the six ganglia pigmentation was observed around the nuclei of the nerve cells. This pigmentation was so different in character and distribution from that present in normal conditions that it would be regarded, adds Dr. Schwab, as a deviation from the normal. In one of the ganglia a sclerosis of the tissue with excess of fibrous formation was found. In some of the ganglia neuritic changes were observed in the peripheral branches, but only in those cases in which a peripheral operation had previously been performed. Dr. Schwab points out that all of these ganglia "were cleanly removed" and given to him in a fresh state well adapted for histological study. They were all from cases of the most severe form of trigeminal neuralgia, and in three of them there had been no peripheral operation to complicate the microscopical findings. It therefore seemed a fair conclusion that, if trigeminal neuralgia depended upon disease of the Gasserian ganglion, these six ganglia would exhibit the pathological changes which were associated with the chief symptoms. The complete disappearance of the symptoms of neuralgia when the ganglion was removed or when the root which connected it with the brain was divided showed that the ganglion was the seat of the disease. Two explanations are offered as to the cause of the intense pain; first, that it was produced by an irritant or toxic agent circulating in the blood and having a selective action upon the nerve cells of the Gasserian ganglion; and, secondly, that local or mechanical causes, such as pressure on the ganglion and overgrowth of connective tissue within it, were the agencies. It was difficult to decide between these two sets of causes and it was probable, adds Dr. Schwab, that both played a part in causing trigeminal neuralgia, the toxic factor being the more important of the two. The nerve cells in the Gasserian ganglia exhibited in all cases signs and changes indicative of prolonged irritation and over-stimulation, in some respects closely resembling the appearances produced (artificially) by electric stimulation for several hours. As to the nature of the toxic or other agency which produces such pathological irritation of the cells, adds Dr. Schwab, we are still in ignorance, but the results of investigation have shown that the locus of the disease is in the Gasserian ganglion and that the agency is a toxic or irritant substance. The ground for future inquiry is thus narrowed and the tracing of the agency in question should therefore be practicable.

## THE DISTRIBUTION OF PLAGUE.

As regards the Cape Colony, the medical officer of health of the colony reports that for the week ending March 7th the state of plague at the various places in the colony was as follows: At Port of Table Bay 1 Indian male adult, a member of the crew of the s.s. *Nevasa* which arrived in Table Bay on March 3rd from Bombay and Eastern African ports, died suddenly from plague on board that vessel in Table Bay on March 6th. The rats on board this vessel have been found to be infected with plague. At Port Elizabeth 11 cases of plague were discovered during the week ended March 7th—namely, 1 European male, 6 coloured males (2 of whom were found dead), 3 coloured females, and 1 native male. The cases were discovered on the following dates—namely, 3 on March 1st, 2 on the 2nd, 2 on the 3rd, 1 on the 4th, 2 on the 5th, and 1 on the 6th. At the plague hospital, Port Elizabeth, 2 coloured male patients died during the week, leaving 23 cases still under treatment. Plague-infected rats continued to be found in different parts of the town. A mortality among rats is occurring at East London at the wharves on the east bank of the Buffalo river. Certain of the dead rats have been proved to have died from plague. During the week ended March 7th 4 cases of plague were reported at King William's Town, 2 being adult male Europeans and 2 being adult male natives. Of the latter, 1 died on March 6th; the remaining 3 cases were isolated in the plague hospital. Plague-infected rats continued to be found at Graaf-Reinet during the week and a death suspicious of plague occurred in the person of a European adult female.

## THE SUBJECTIVE SYMPTOMS OF TABES DORSALIS.

Professor Joseph Collins of the New York Post-Graduate Medical School has published in the *Medical News* of March 7th a paper dealing with the subjective symptoms of tabes dorsalis, based upon a study of 140 cases of the disease. An account of Professor Collins's observations on the objective symptoms of tabes, based on a study of the same number of cases, appeared earlier in the year and was then referred to in THE LANCET.[1] The subjective symptoms of tabes, says Professor Collins, are variable, the objective symptoms are constant. The former, however, comprised a number of important conditions as ascertained by the study of the above 140 cases. Pain in the lower extremities

[1] THE LANCET, Jan. 24th, 1903, p. 257.

was one of the most constant symptoms. The pain was usually "shooting" or "lightning-like" in character, and less frequently it was described as "tearing" or "burning." Intensely painful spots were also found on the limbs. All these pains of tabes may be accompanied, adds Professor Collins, by violent contraction of the painful part. Next in importance were crises or attacks of suffering and distress felt in the stomach, the bladder, the rectum, and the larynx. Paræsthesiæ of the extremities, such as numbness, tingling, formication, "pins and needles," and a feeling as of the skin being "tightened," were also common. Vertiginous sensations were frequent, especially when the patient was in an unaccustomed place. The remaining subjective symptoms of tabes comprised lessened sexual desire and a feeling of inability to expel urine freely from the bladder. Professor Collins concludes by giving a classification of tabes into "types" for clinical and prognostic purposes. These comprise a neuralgic type with pains of great severity as the main symptom, a visceral and trophic type with visceral "crises" and joint disease, a markedly ataxic type in which the patient becomes rapidly helpless and bedridden, a cerebral type in which optic atrophy appears early, a cervical type in which the upper limbs are chiefly involved, a benign type in which the progress of the illness is very slow, a "galloping" type the course of which is rapid, and a mental type which tends to dementia. The prognosis varies with the type of the disease.

## OBSERVATIONS UPON LONG-DISTANCE RUNNERS.

THE *Boston Medical and Surgical Journal* of Feb. 19th contains an interesting series of papers on observations upon long-distance runners which are edited by Dr. J. B. Blake and Dr. R. C. Larrabbee. The Boston Athletic Association holds an annual "Marathon race"—i.e., a foot-race with a course equal to the distance from the battlefield of Marathon to the Stadium in Athens—about 24 miles. The following are the results of a large number of careful observations made after the races of 1900, 1901, and 1902. After the race the pulse was always increased but the increase was often surprisingly small. It was least in the best-trained men and in those who finished slowly. Rates varying from 82 to 180 were recorded. Moderate irregularity was not infrequent. The tension was very low and dicrotism was sometimes present. In cases of severe fatigue there was a small "thread-like" pulse. The competitors lost weight to the extent of from 3 to 6 pounds. The temperature in the mouth was sometimes raised, often normal, and occasionally subnormal. But the rectal temperature was almost invariably raised and varied from 100° to 104° F. The variability of the temperature in the mouth is explained by the mouth-breathing which all violent exertion causes. The difference between the oral and rectal temperatures was often as great as 7°. Examination of the blood showed invariably a leucocytosis which varied between 14,200 and 27,700. The greatest increase was in the polymorphonuclear leucocytes. The percentage of large forms as compared with small ones was invariably increased. Eosinophiles were decreased, both absolutely and relatively. In seven out of nine cases a few myelocytes were found. The leucocytosis was thus of the inflammatory type (in which the increase is wholly or mainly in the polymorphonuclear neutrophiles), in contra-distinction to the physiological leucocytosis observed during digestion and pregnancy and after moderate exercise, cold baths, or massage (in which the percentage of the different varieties of leucocytes remains unaltered). Before the race the heart was invariably found to be enlarged; this was due mainly or wholly to hypertrophy the result of training. After the race there was slight further enlargement which was inferred to be the result of acute dilatation. In some cases murmurs were heard before the race and were thought to be due to excitement. Murmurs also developed during the race. Thus of nine cases in which no murmur was heard before the race murmurs were heard after it in six. Of these murmurs three were cardio-respiratory, ceasing on holding the breath. The other three were apical systolic. Whether they were due to temporary mitral regurgitation from relaxation of the mitral orifice could not be determined. The changes in the urine are of great interest. The colour was always higher than before the race; often the urine was slightly turbid and sometimes it was smoky. The acidity was markedly increased. The changes in the specific gravity were inconstant; in the majority of cases it was diminished. The amount of urea excreted in the 24 hours after the race was not increased; on the contrary, it was sometimes diminished. These results are in accordance with the researches made by Fink and Wislicenus in their ascent of Faulhorn and with the later work of Voit and Parkes. The excretion of uric acid appeared to be diminished in the majority of cases. The chlorides were constantly diminished to the extent of about 50 per cent. A trace of albumin was invariably present and persisted in most cases for at least 36 hours. All the sediments contained large numbers of hyaline and finely granular casts and a few coarsely granular and epithelial casts. Blood was always present—free and on the casts. Brown granular casts were rarely found. Calcium oxalate crystals were present in most cases. Spermatozoa were observed in several cases.

## SMALL-POX AND THE CORPORATION OF DUBLIN.

IN THE LANCET of March 28th, p. 905, we mentioned that an outbreak of small-pox had occurred in Dublin. The public health committee, with an activity which is worthy of praise, took steps to limit the severity of the outbreak by a system of isolation, of removing "contacts," and of vaccinating them. Unfortunately, however, the zeal of the public health committee was like that attributed to the Jews by the Apostle Paul—namely, zeal not according to knowledge. At the meeting of the North Dublin board of guardians held on March 25th and reported in the *Dublin Telegraph* of that date a report was read from Mr. David Fagan. This report stated that Mr. Fagan had been informed that various persons since they had been discharged from the Dublin Corporation Refuge, whither they had been taken while their rooms, clothing, and the like were being disinfected, had had no food. No one would give them work and the guardians of the poor said that they could not grant relief, for that it was the duty of the corporation to do so. Mr. Fagan managed to give them food and firing on his own responsibility. This state of things is bad enough, but it is as nothing compared to the treatment which the unhappy "contacts" received in the refuge. From a sworn statement made before Mr. W. L. Kenny, K.C., deputy divisional magistrate, which sworn statement was incorporated in Mr. Fagan's report, we learn that the deponent, a man, together with his wife and an infant, aged six days, were removed to the refuge on March 7th. Their clothing was all taken away. The deponent, his wife, and the baby were allotted one room; in the three other rooms were huddled together over 40 persons, members of 11 families. The only clothing they had was a blanket taken from the bed. Men, women, and children were all mixed up together in this practically nude state, and deponent said that he saw a girl go down to the kitchen to be vaccinated with nothing on but a blanket. Men walked about the rooms completely naked and drunk. The guardians considered that the matter should be referred

to the Local Government Board. If these statements are true we have no hesitation in saying that the matter is an absolute and crying disgrace to all concerned. We say, "if they are true," for Sir Charles Cameron, the superintendent medical officer of health, declared on being interviewed that the statement was a gross exaggeration. He did not deny, however, that no clothing was given to the "contacts" to wear while their own rags were being disinfected, but he said that they had to remain in bed while the disinfection was proceeding. There also seems to be no doubt that many "contacts" got drunk, and Sir Charles Cameron allowed that they were supplied with wine, stout, and whisky. This we should call an error of judgment. Moreover, we think that the guardians were to blame for not seeing that the poor for whom they are responsible were supplied with food after leaving the place euphemistically called a "refuge." Segregation of "contacts" is a good thing, revaccination is also a good thing, but if the corporation of Dublin thinks that measures undertaken in the way that we have quoted, or even in the modified manner described by Sir Charles Cameron, will make people pay more attention to hygiene, will improve the status of the poor, or will make them value vaccination more highly, the sooner it is taught differently by as sharp measures as possible the better. We await with interest the action of the Local Government Board.

## THE FUTURE OF ST. GEORGE'S HOSPITAL.

THE following fly-sheet is being circulated amongst the governors of St. George's Hospital:—

St. George's Hospital, S.W., March 28th, 1903.

The governors of St. George's Hospital who were present at the recent court held at Grosvenor House would appear to have carried away an erroneous impression to the effect that a large majority of the medical and surgical staff are in favour of the removal of the hospital under any circumstances. The undersigned members of the staff wish to state that this is not the case and that they are not in favour of removing the hospital under any circumstances *unless* such a sum of money can be obtained for the present site as will suffice to build and equip a perfect modern hospital of not less than 360 beds on a suitable site; to build and equip a thoroughly up-to-date medical school; to provide a nursing home; and to increase the endowment of the hospital sufficiently to meet all such additions to expenditure and all such loss of income as may be incurred by removal.

Failing these conditions they are in favour of making every endeavour to raise sufficient money either (1) to rebuild St. George's on its present site and such land as may be obtainable in the immediate neighbourhood; or (2) to purchase such adjoining land as may be available and to bring the present buildings as far as possible into line with modern requirements.

(Signed)

Wm. Ewart, M.D., Senior Physician; F. G. Penrose, M.D., Physician; H. D. Rolleston, M.D., Physician; *Wyndham Cottle, M.D., Physician for Diseases of the Skin; F. W. Hewitt, M.D., Physician Anæsthetist; *Lee Dickinson, M.D., Senior Assistant Physician; Cyril Ogle, M.B., Assistant Physician; Arthur Latham, M.D., Assistant Physician and Dean of the Medical School; Arthur Stabb, M.D., Assistant Obstetric Physician; *G. R. Turner, F.R.C.S., Surgeon; A. Marmaduke Sheild, F.R.C.S., Surgeon; W. Adams Frost, F.R.C.S., Ophthalmic Surgeon; W. C. Bull, F.R.C.S., Aural Surgeon; Herbert W. Allingham, F.R.C.S., Senior Assistant Surgeon; F. Jaffrey, F.R.C.S., Assistant Surgeon and Dean of the Medical School; Herbert S. Pendlebury, F.R.C.S., Assistant Surgeon; H. B. Grimsdale, F.R.C.S., Assistant Ophthalmic Surgeon; Norman G. Bennett, M.B., Assistant Dental Surgeon.

* These members are only in favour of the two last clauses.

At the present time the active medical and surgical staff of the hospital consists of 22 members, of whom 18 have now declared that unless an almost ideal set of conditions should prevail to alter their views they are not in favour of moving the hospital from its present site. This consensus of opinion cannot fail to be influential.

## THE SALE OF POISONS.

WE have received a copy of a Bill which has been introduced into the House of Commons by Mr. Thomas Lough, M.P. for West Islington, and which is backed by Mr. John Burns, Mr. J. Henniker Heaton, and others. The objects of the Bill are good and may be shortly summarised as tending to check the abuses which are at present connected with the sale of poisons. The main point of the Bill is contained in the two following clauses:—

1. In this Act "the society" shall mean "the Pharmaceutical Society of Great Britain," "registered person" shall mean a "pharmaceutical chemist or a chemist and druggist," "poison" shall mean a poison within the meaning of the Pharmacy Act, 1868, "registrar" shall mean the registrar of the society.

2. From and after Dec. 31st, 1903, it shall be unlawful for any person or any company, firm, co-partnership, or body of persons to keep any open shop or shops for the retailing, dispensing, or compounding of poisons or of medical prescriptions unless each shop shall be *bonâ fide* conducted by a registered person, or to permit or suffer in such shop any poison to be retailed or any medical prescription to be retailed, dispensed, or compounded otherwise than by or under the supervision of a registered person; also it shall be unlawful for any person or any company, firm, co-partnership, or body of persons to keep any such shop unless the address of the shop shall have been registered upon the register of shops to be kept under this Act and the name and address of the registered person to be in the *bonâ fide* conduct of the shop shall have been registered upon the register of persons in the *bonâ fide* conduct of shops to be kept under this Act, and also it shall be unlawful for any person or for any company, firm, co-partnership, or body of persons to sell or to negotiate or participate in the sale by retail of any poison at or upon any place other than an open shop registered upon the said register of shops.

3. The address of the registered shop whereat a sale of poison takes place shall be the address of the seller for the purpose of the labeling required by Section 17 of the Pharmacy Act, 1868.

We do not see, however, in this Bill as drafted any clause whereby the rights of medical men to dispense their own medicines, either themselves or through the agency of a qualified dispenser, are to be preserved and one should certainly be added. Moreover, we think that the provisions of the Pharmacy and Sale of Poisons Acts should no longer be able to be evaded, as they are now in the case of chlorodyne, by the simple method of placing a 1½*d.* Government stamp on the bottle. But we have every wish to place the sale of poisons under strict control and cordially agree with the authors of the Bill that companies should be brought within the provisions of the law.

## THE MODE OF ACTION OF SUBCONJUNCTIVAL INJECTIONS.

AN interesting address on this subject has been recently delivered by Dr. Karl Wessely to the Natural History Society of Carlsbad. It has been fully reported in the *Deutsche Medicinische Wochenschrift* of Feb. 12th and 17th. Dr. Wessely's experiments were made upon rabbits and consisted in injecting beneath the conjunctiva solutions of various strength of sodium chloride and other salts and watching carefully their effects. The practice of subconjunctival injections has been employed and sometimes found useful in the infectious processes which occur after operations and wounds, in diseases of the cornea, in cases of acute and chronic iritis, in various forms of choroiditis, in detachment of the retina, in opacities of the vitreous, and in chronic degenerative processes such as retinitis pigmentosa. His experiments have satisfied Dr. Wessely that subconjunctival injections do not act through their osmotic power on the internal humours of the eye, since analyses have proved that their penetrating power is very small, that they do not produce their effect by acting as lymphagogues, nor, so far as regards sodium chloride injections, by any direct action in setting free leucocytes. They really act as powerful local stimuli to the conjunctiva which, even when frequently employed, have no injurious effects. The nerves of the conjunctiva thus energetically stimulated act in a reflex manner, presumably through the vaso-motor nerves on the vessels of the adjoining vascular territory, leading to the dilatation of the ciliary area. The hyperæmic condition of the ciliary vessels renders their walls more permeable and the result is the secretion of aqueous humour containing much albumin in place of the normal aqueous which contains none. Having determined these points experimentally Dr. Wessely proceeds to consider whether the effects of these injections are really serviceable and in what way they act and observes in the first place that

we have long been accustomed to regard all the processes accompanying inflammation as constituting safeguards to the organism. Amongst others the œdema that accompanies inflammation has been so regarded without any precise reason being given for its efficacy. Bacteriological researches have, however, shown that the serum of normal blood contains several protective materials which play an important part in the strife against the lower organisms, and, moreover, that these materials, to which the names of bacteriolysin, agglutinin, hæmolysin, and precipitin have been applied, are in all probability associated with the albumin of the serum. The question immediately arose whether as the normal aqueous humour of the eye is almost destitute of albumin, whilst that secreted after subconjunctival injections contained a notable proportion of albumin, the beneficial effects observed might be due to the presence of ferments, enzymes, or solvents eliminated with it. Experiments made with animals rendered immune with the blood of the ox showed that the normal aqueous humour has no power of dissolving bovine blood corpuscles and hence contains no hæmolysin. But if a subconjunctival injection were made of a 5 to 10 per cent. solution of common salt, and after the lapse of half an hour the aqueous was withdrawn, it quickly dissolved an equal volume of a 5 per cent. mixture of blood corpuscles—a very interesting result—and still other experiments demonstrated clearly that the power of solution in the newly secreted aqueous was in direct proportion to the amount of albumin that the fluid contained.

## THE MEDICAL REGISTER FOR 1903.

THE Medical Register for 1903 contains 1690 pages, as compared with 1647 last year. The foreign list, which was a new feature last year and then contained only one name, now contains five. On p. 76 of the Register is given a table showing the total number of medical men whose names are included in the Register on Dec. 31st in each year. On Dec. 31st, 1902, there were 37,232 names. On Dec. 31st, 1901, there were 36,912 names, and since then 1275 new names have been added, 96 restored, and 1051 removed, constituting a net gain of 320. The average number of names on the Register for the last five years is stated to be 36,279, so that the present number now exceeds that average by 953. Of the 1051 names removed, 700 were removed on evidence of death, 345 under Section XIV. of the Medical Act, and six under Sections XXVIII. and XXIX. of the Medical Act. Notwithstanding the fact that 700 names are stated to have been removed from the Register during the year on evidence of death—which is the highest number for 17 years—we have found, on comparing the Register for 1903 with the first 100 names in the obituary list at the end of the Medical Directory for 1903, that 12 of those names are still on the Register. As there are 607 names in the obituary list of the Medical Directory we hope that we may not assume that 72 names of deceased medical men are still on the Register for 1903. This is a very often-debated matter in these columns, but it does no harm to refer to it again, for the accuracy of the Medical Register is a matter in which the whole medical profession is profoundly interested. The name of a deceased member of the medical profession must be allowed to stand on the Register till complete evidence of his death is forthcoming; at the same time use might be made of the better information apparently at the disposal of the Medical Directory, and the deaths announced in that excellent book of reference might very well be inquired into by the registrar for purposes of verification. The presence on the Register of the names of dead persons is a real source of danger to the public. We notice that in two cases of medical men attached to the medical department of the King's household and of the Royal Family their titles are not included in the Register, although the titles of all the others are. We also observe that several errors have been made in the addresses. For instance, Edgbaston is called "Egbaston" and Sloane is called "Solane," and has been so printed for at least three years, and, further, the medical man in whose entry this slip occurs does not now live there. Cockfield is called "Cochfield," Pietermaritzburg is called "Pietermaritzberg," Rustenburg is described as in the "South African Republic," and Oulart is called "Outlart." But there is no need to multiply examples, which could probably be done, as our remarks are the result of only a few minutes' scanning of some of the pages. We are not making an attempt to find fault and we are quite aware of the immense amount of work that goes to the making of the official roll of the medical profession. Therefore we do not labour the points that we think might be urged against the compilation as a gazetteer or as a guide to the quick and the dead. There is no doubt that the Medical Register has become a vastly more accurate volume during the last two years than it was previously.

## STREET NOISES.

EVERY year with the opening of the racing season the "winner" yeller wakes from his winter torpor and makes day and night hideous with howls like those of a banshee. The police, as represented by Sir Edward Bradford, and the London County Council, have both issued orders to deal with this nuisance, but they are fenced about with such absurd regulations that they are of no use. How can a busy man whenever he hears a "runner" be expected to leave his work, rush downstairs, keep one eye on the "runner," and look for a policeman with the other? But supposing that a constable is found simultaneously with the "runner" being near the only thing is that the latter's address is taken. He is then summoned and probably does not attend the summons. Even if he does more disturbance to work is caused by the annoyed citizen having to attend the court and most probably the "runner" is fined 6*d.* or some entirely inadequate sum. What is wanted is for the police to have power forthwith to arrest any newsmonger who shouts. The London County Council has just increased its rate. It is only fair that it should do something to urge upon the Home Office that the police should be enabled to control a nuisance which has become perfectly unbearable. The nuisance is most acute on the day of a big race and if only the police authorities would on the day of, say, the "City and Suburban" station a plain-clothes man at the bottom of Bedford-street, Strand, with directions to take a note of the number of "runners" who yell perhaps even the official mind would be stirred to desert its attitude of Gallian indifference.

## THE NEW PAPYRUS OF TIMOTHEOS OF MILETUS' POEM ON THE PERSIAN WAR.

CERTAINLY up to the present time few more precious relics of ancient literature have been found preserved for us by the perfection with which the Egyptians carried out their burial rites than the magnificent poem of Timotheos of Miletus contained in a papyrus found last year in a sarcophagus beside a body at Abusir. Such a subject may perhaps be deemed extraneous to the contents of a medical journal, but that is hardly so in such a special case as this. Any really elevated and exquisite production of the poetic fancy such as this is calculated to be a mental consolation and thus a physical assistance to many a jaded, overworked citizen subject to the tension of modern life as well as to the actual invalid. To the medical man who turns from his weary round for some change of thought a masterpiece such as this, if he still retains his

scholarship, will be a literary pleasure and for the benefit of those who have forgotten their Greek it may be expected that a translation will soon be forthcoming. It would be singular, if it is true as has been alleged that the poetic genius of the race shows sinister signs of diminution in recent years, that the balance should be redressed by the recovery of masterworks of the classic muse. Within something like a decade the lost poems of Herondas, Bacchylides, and now the great ode of Timotheos have been restored to us and it is not too much to anticipate that these are but precursors of a greater harvest.

## THE PRODUCTION OF ARSENICAL GASES BY LOW ORGANISMS.

IT is curious and not a little startling that the fungus concerned in forming the green mould on cheese or on jams is an arsenic eater, and there can be little doubt that this power of certain low organisms of assimilating arsenic has in some cases accounted for the poisonous symptoms ensuing upon sleeping in rooms furnished with arsenical wall-papers. It has been shown that many of the moulds when placed in suitable nutrient fluids containing arsenic will gradually assimilate the arsenic, ultimately expelling it in the form of arsenical gas. In this way a comparatively inert arsenical compound may be converted into a powerfully poisonous gas. The action of the fungus may easily be demonstrated. For example, if a raw potato be taken and a very weak arsenical fluid be brushed on its freshly cut surface and inoculated with one of the arsenic-assimilating moulds, such as the common penicillium glaucum or the mucor mucedo, a persistent odour will sooner or later be developed unmistakeably like garlic which is due to the evolution of arsenical gas. A sop of bread may be substituted for the potato and is said to give even more marked results. So readily do these fungi select the arsenic that they have been employed, so to speak, as detectives of the poisonous metal when present in quite minute quantities. In fact, these low organisms have been employed in toxicological investigations, the test, it is stated, being more delicate than chemical methods. In the same way the presence of arsenic may be detected in wall-papers, in dye-stuffs, or other fabrics which may be examined directly without the preliminary trouble of destroying the organic matter, which is often necessary in chemical methods.

## THE HEALTH OF WAGNER.

IN a leading article which appeared in THE LANCET of March 7th, p. 672, we discussed the theory put forward by Dr. G. M. Gould of Philadelphia as to the relation between dyspepsia and eye strain. Dr. Gould took as instances the following five well-known workers, all of whom suffered from dyspepsia—De Quincey, Carlyle, Darwin, Huxley, and Browning—and maintained that they all suffered from some error of refraction. Mr. W. Ashton Ellis, M.R.C.S., is now issuing an English version of Herr Glasenapp's "Life of Richard Wagner," although he has added to the original German some interesting details founded upon lately discovered Wagner records. In Vol. III., a book of some 500 pages representing but 100 of Herr Glasenapp's work, we find many allusions to Wagner's state of health. He seems to have suffered much from dyspepsia, together with all the troubles attendant on the toxæmia set up by that condition, and in particular we note that while he was writing the *Niebelungen Ring* he complains of constant headache. Mr. Ashton Ellis considers that this headache was due to migraine, and certainly the symptoms of which Wagner complained were very much those of migraine, although he talked about the pain being "like a sharp knife cutting into the nerves of my brain." In the experience of most people, however, the migraine pain is more like a blunt nail being driven into the head. Errors of refraction are a well-known cause of migraine and it is quite possible that Wagner suffered from such errors. Migraine, however, is common in highly wrought persons of the artistic temperament, and Wagner lived his life to the full and was moreover by no means a normal person. Poet, dramatist, revolutionist, a musician without compeer in his own particular line, one with a mastery of the orchestra comparable to that of Swinburne over words and rhythms or of a mediæval architect over stones and the intricacies of tracery and groining, what wonder that the mere physical body sometimes gave way under the nervous strain with which Wagner's art treasures were produced.

## A STRANGE METHOD OF COMMITTING SUICIDE.

IN a leading article which appeared in THE LANCET of Oct. 5th, 1901, p. 921, entitled "Peculiar Methods of Suicide," we mentioned the case of a man who killed himself by means of an ingeniously constructed guillotine. A similar case has recently been reported from Rheims. A man procured a spade, sharpened the edge, and fixed the implement, blade downwards, to the end of a carpenter's bench which he weighted heavily. He then placed a block of wood under the same end of the bench in such a fashion that the block could easily be removed and so let the bench fall together with the sharpened blade. When these preparations were completed the man lay down and placed his neck on a thick piece of wood directly under the spade and knocked the supporting beam away with the result that he was immediately decapitated.

## ON ASPIRIN AS AN ANALGESIC IN CARCINOMA.

IN the *Allgemeine Wiener Medizinische Zeitung* of March 17th Dr. Gustav Breuss of Vienna strongly recommends the use of aspirin for the relief of pain in inoperable carcinoma. Numerous observations have been made on the analgesic effect of aspirin in neuralgias and other painful affections, but only very few on its use in carcinoma. Dr. Witthauer[1] gave doses of one gramme of aspirin once or twice daily in three cases of inoperable carcinoma with beneficial results. Dr. Merkel obtained good results in a case of severe rectal carcinoma by the administration of four grains in small doses, and several other observers agree as to its usefulness in uterine carcinoma. Dr. Breuss has made a trial of it in several cases, chiefly of this last disease, and has been in all cases gratified by the result. He uses one-gramme powders and administers two or three daily. He believes that it postpones the ultimate use of morphia injections very considerably and even when these are unavoidable renders a smaller quantity effective.

## THE DANGERS ATTACHING TO THE PERSISTENCE OF MECKEL'S DIVERTICULUM.

THE diverticulum of Meckel, the persistent vitelline or omphalo-mesenteric duct, is found in no small proportion of cases, but fortunately it is only rarely that harm results from its presence, for at many a necropsy it is discovered when the history makes it clear that it has never given rise to any symptoms. In two or three ways this "vestige," however, is dangerous. When the diverticulum is unattached by its extremity it has but little tendency to produce any morbid effects, but if it is attached by the tip it may readily lead to acute intestinal obstruction by pressing on and constricting a coil of bowel. Many cases of this occurrence have been recorded and a large proportion end in recovery if an early laparotomy is performed for relief of the obstruction, for the patient is generally a youth or a young adult and stands the operation well. There is, however, another mode by which the diverticulum may cause symptoms. Should the finger-like process become inverted into the cavity of the ileum, it will

[1] Therapeutische Monatshefte, October, 1900.

in all probability act like a foreign body and will give rise to peristalsis, and the persistence of this peristalsis will lead to an invagination of the portion of bowel to which the abnormal process is attached, and thus an intussusception will be developed. The museum of the Royal College of Surgeons of England contains a specimen showing an inverted Meckel's diverticulum which led to a fatal intussusception. An instance of this rare cause of intestinal invagination is recorded in this number of THE LANCET and the successful issue was due to the early recognition of the intussusception by the medical man, Mr. E. L. Hunt of Shenstone, and the prompt operative treatment which was was adopted by Mr. H. G. Terry at the Bath Royal United Hospital. Mr. Carwardine has reported a case in which a still rarer morbid condition resulted from the presence of a persistent vitelline duct. A child died when three days old and it was found that a large Meckel's diverticulum existed and that this had become distended with meconium and had taken a twist of three turns, when complete intestinal obstruction had occurred.

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A DISCUSSION will take place at the Hunterian Society upon the Present Methods of treating Tuberculosis on the evenings of Wednesdays, April 8th and 22nd, commencing at 8.30. On Wednesday, April 8th, an introduction to the discussion will be made by the President, Dr. Stephen H. Appleford. A debate on the Treatment of Tuberculosis in Sanatoriums compared to that in Private Practice will be opened by Dr. G. Newton Pitt; Dr. H. G. Felkin will open a debate on the Influence of Location; and Dr. T. N. Kelynack will open a debate on the Selection and Classification of Patients in Sanatoriums. On Wednesday, April 22nd, Dr. T. H. A. Chaplin will open a debate on Infection, Reinfection, and Multiple Infection; the Surgical Aspect of the Treatment of Tuberculosis will be discussed by Mr. W. Knight Treves; and Modifications with respect to Comfort, Exercise, Rest, and Recreation will be suggested for consideration by Dr. T. Glover Lyon. There will be an exhibition of plans and models of sanatoriums in the theatre of the London Institute, Finsbury-circus, E.C., where the discussion will be held and where a lantern and screen will be available for the exhibition of slides.

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THE reports by the chemist and the medical officer of health, together with a bacteriological report by Dr. F. W. Andrewes, on the condition of the atmosphere of the Central London Railway, have been printed for the London County Council and published this week. The conclusions are identical with those upon which we commented in our issue of Feb. 21st, p. 538. While the amount of carbonic acid gas considerably exceeds that found in the air above the ground the number and kind of organisms were practically the same as those in the outside air. There is no reference to the existence, origin, or nature of the peculiar sickly smell of the air in the tube.

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Dr. J. McNaughtan, medical officer of the Scotch Prison Service, and Mr. N. A. Humphreys, the chief clerk to the Registrar-General's Department, have been appointed by the King as Companions of the Imperial Service Order in recognition of long and meritorious service in the Civil Service.

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HIS MAJESTY THE KING has acceded to the request of the board of management of the National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, to accord his patronage to the charity.

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Professor W. A. Tilden D.Sc., F.R.S., has been elected President of the Chemical Society.

## THE ROYAL NAVY MEDICAL SERVICE.

THE First Lord of the Admiralty, Lord Selborne, distributed the prizes on March 31st, at Haslar Hospital, to the successful candidates in the instructional course at the Royal Navy Medical School. The ceremony took place in the library attached to the museum and the company numbered about 70, chiefly composed of the student surgeons and of the medical officers from the various establishments in Portsmouth harbour, from the harbour ships, and from the Marine depôts.

Sir H. F. NORBURY, Director-General of the Medical Department of the Royal Navy, said that they were all glad to welcome Lord Selborne at Haslar Hospital and proceeded to read the report of the inspector-general on the work and conduct of the students who had attended the course of instruction at the school. He was glad to say that the sum total of the marks gained compared favourably with the totals recorded on former occasions.

Lord SELBORNE then presented the gold medal and a microscope to Surgeon M. J. Laffan, and the silver medal and some books to Surgeon A. D. Spalding.

Lord SELBORNE then proceeded to address those present and said: It has been the greatest pleasure to me to come here to-day to give away the prizes at the end of this course. The Haslar Naval Hospital is the headquarters of the medical department of the navy, and I always think that one of the great glories of the naval service is that it takes to itself all the other great professions—the priest, the soldier, the engineer, and the surgeon—and gives to each of them a blend of the sea in addition to his own peculiar professional qualities, and in every sense he is the better for this blend of the sea. Sometimes I am told that although a man may be the better for it he is handicapped in his professional career by the absence of certain opportunities. Now, to take the case of the medical officer, I quite admit that in the navy you will not have all those opportunities for constant observation and varied practice which your friends, the civil practitioners, may have. I also admit that in going into the navy you are abandoning the chance of those great prizes and of the wealth which the more fortunate medical man in civil practice may acquire. But remember that it is not always the man who deserves success who obtains it and there is many a clever medical man in civil practice who has never yet achieved that wealth which his real ability with opportunity should have enabled him to attain. There are many qualities that make for success, which is achieved not by ability alone but by a combination of many qualities and also by luck. In deliberately exchanging this chance by entering the naval service you know that you have achieved for yourself a perfect certainty of position. You have looked forward into the future of your life and know exactly what your life can be. You can say to yourself, "If I choose I can serve my country with great honour to myself and advantage to the service." You leave care in its strictest sense behind you and you know what the future will give you. If you have the merit you can achieve great honour for yourself and your family. Perhaps the Admiralty has not done all that it might have done in the past towards enabling the naval medical man to keep pace with the scientific progress and advance of medicine, but there has been great difficulty in the matter owing to the shortage of medical officers. The navy has expanded by leaps and bounds. Nearly 130,000 men will be voted for the navy next year, whereas they had only 60,000 15 years ago. It has been difficult for the medical department of the navy to keep pace with this great expansion, and it has followed that there has not been the number of officers to make it possible for the Admiralty to give the study leave between commissions which I admit frankly is essential if an officer is to keep abreast with the scientific advances in his profession. But it is very little after all that the Admiralty can do for them because a man is really what he makes himself and not what the Admiralty makes him or any other body of people can make him. What you have to ask yourselves all through your professional life is this: "I know the disadvantages which I suffer from in comparison with my civilian friends, but am I using all the advantages I have?" How many of your civilian friends will have the opportunities of study that you will

have? If you choose you can use the time at your disposal to keep yourself abreast of advances in medicine by reading the literature of your profession. Again, you will have very peculiar opportunities of observation which are denied to your civilian friends at home. Your special service will give you special opportunities. I sometimes wish very much that the great triumphs of Manson and of Bruce had been naval triumphs and whether they were to have a naval conquest of that sort was as open to the naval officer as it was open to Dr. Manson. We are only at the beginning of our knowledge in these matters and although you will not have those opportunities of constant study into the mystery of cancer which your friends at home will have yet there is the almost equal mystery of Mediterranean fever which the civilian at home will not have the opportunity of studying and which is a world of science for you to conquer. You know what work has been done at Haslar and at Malta—and I may say that at those places perhaps more has been learned in respect of the true knowledge of Mediterranean fever than in any other laboratories in the world; still the opportunities that you have of studying this subject are very great and you know much better than I do how much greater they are. Apart, however, from these special opportunities of study I want each of you officers entering the naval medical service to remember that it is your duty by every suggestion that you can make to contribute to the welfare of the service and the advancement of medical science. Do not think that suggestions are not welcome. In my opinion, the man who shuts his ears to suggestions is a fool; the man who is successful in his work, who gets the reputation of always being able to overcome the difficulties of the moment, who has a reputation for resourcefulness, is in nine cases out of ten a man who opens his ears to any suggestions that others may bring him. I could not do my work as First Lord of the Admiralty for one week on my own brain. It is because I am only too glad—and my colleagues are only too glad—to have suggestions in regard to the solution of problems that the work is carried on. We never shut our ears to any suggestions whatsoever. Many suggestions doubtless are futile and also foolish, but if you are not prepared to listen to them you will not get the advantage of any good suggestion that may be offered. What I say is that it is the duty of everyone in responsible positions of authority to receive suggestions and it should be the ambition of all young officers to make suggestions, of course only after careful thought and accurate observation. If an officer makes random suggestions he is destroying, and deservedly so, his own reputation. The study of these questions applies to every department of the work that lies before you. Take the battleship, for instance, in which you will serve. There is a problem, as yet unsolved, that has puzzled the brains of the most capable and experienced officers—the problem of forecasting the conditions under which it will be possible to deal with the wounded in naval actions. No one quite knows, because the conditions will be so different from any of which they have had any experience. I was told only a day or two ago that Sir Frederick Treves had said about the war in South Africa that if a tent could be pitched over every wounded man where he fell and if he could be treated there the loss of life in war would be enormously diminished. The loss of life is from the moving of the wounded man and not so much from the wound received. In a battleship you have practically a tent over the man where he falls, but all the men could not be treated immediately. There would not, however, be all that difficulty in dragging him to a base hospital in a cart or heavy wagon causing him to be torn asunder with pain. The difficulty, however, remains of how the medical officer is to get at the wounded. I only put this forward as a kind of idea that occurred to me of the sort of problem I would try to solve if I were a naval medical officer. The King, the country, and the Board of Admiralty mean the navy to be the best navy in the world. That does not mean only the best ships and the greatest number of them but that every part of the navy shall be perfect in every part of its administration. Consequently the naval medical department must be perfect and that depends in the first place on the officers and then on the appliances which on their advice the Admiralty supplies. I consider it to be the duty of the Board of Admiralty to spare no money which the taxpayer will give to put everything at your disposal that science can suggest to make the naval medical service a pattern to all the medical services in the world. In conclusion I congratulate you, Staff-Surgeon Bassett-Smith, on the success of this course for which you are chiefly responsible, and I also congratulate you on your promotion which I now inform you that the Board of Admiralty has conferred upon you.

Sir HENRY NORBURY then proceeded to read the marks obtained by the student surgeons attending the instructional course.

Inspector-General R. W. COPPINGER, in charge of Haslar Hospital, then expressed the thanks of those present to Lord Selborne for his presence at the gathering.

Lord SELBORNE briefly replied, saying that he was much indebted to them for the kind invitation to be present.

The proceedings then terminated.

## THE THIRD REPORT OF THE ROYAL COMMISSION ON SEWAGE DISPOSAL.

As shown in its third report just issued the labours of the Royal Commission on Sewage Disposal cannot be considered to be near the end. In fact it is obvious that the Commissioners find that the scope of their inquiry widens as their investigations are pursued. The contamination of oyster beds is a case in point. It is equally obvious that they are gathering information of the most valuable kind and that the members are a very capable body of men who mean to make their inquiry as thorough as possible. It will be remembered that the Commission was appointed in 1898 "to inquire and to report what methods of treating and disposing of sewage may properly be adopted." Three years after this appointment was made an interim report was issued which was dealt with in a leading article in THE LANCET of August 10th, 1901, p. 376. In this report the Commissioners felt justified in concluding (1) that peat and stiff clay land are generally unsuitable for the purification of sewage; (2) that it is practicable to produce by artificial processes alone, either from sewage or from certain mixtures of sewage and trade refuse, effluents which will not putrefy (this conclusion led to the Commission expressing the opinion that under proper safeguards the present rule as regards the application of sewage to land might be modified); and (3) that the creation of a separate commission was demanded or a new department of the Local Government Board which shall be a supreme rivers authority dealing with matters relating to rivers and their purification. In the second report the methods of bacteriological analysis adopted by the Commission were described and at the same time the importance of bacteriological examination was emphasised in view of the fact that though purification of sewage was undoubtedly effected by bacterial agencies, yet the resulting effluents were not bacteriologically satisfactory owing to the presence in them of large numbers of organisms of the colon series.

The third report deals with some very important aspects of the inquiry. In the main it relates to the question of the disposal and treatment of trade effluents. It is well known that sewage containing trade effluents is generally more difficult to purify than is ordinary sewage. The Commission finds that these difficulties arise from the fact that trade effluents may be turned into the sewer at irregular intervals and that they may contain large quantities of solid matters in suspension which tend to choke the purification plant and that they may be very acid or very alkaline or otherwise chemically injurious. In spite of these facts, however, the results of practical inquiry "fully support the view that it is practicable in the great majority of cases to purify mixtures of sewage and trade effluents if the manufacturers adopt reasonable preliminary measures." The conclusion follows that the law should be altered so as to make it the duty of the local authority to provide such sewers as are necessary to carry trade effluents as well as domestic sewage and that the manufacturer should be given the right, subject to the observance of certain safeguards, to discharge trade effluents into the sewers of the local authority if he wishes to do so. There are cases, however, in which the local authority should obviously be relieved of this duty—as, for example, when the effluent discharged from the manufactory is of a composite character, the greater part of which might with advantage be easily

dealt with by the manufacturer if it were keep separate. It is undoubtedly difficult to generalise upon this matter and therefore it is suggested that in individual or special cases the only solution of the problem would be the appointment of some tribunal which would be empowered to settle any differences arising between the local authority and the manufacturer. There is no doubt that money now wasted over prolonged litigation would be more than sufficient to pay the expenses of a tribunal and the appointment of such a tribunal would be of national advantage. The present machinery for the settlement of differences between local authorities and manufacturers is not only unsatisfactory but costly. The law courts have over and over again been shown to be unsuitable for the determination of these questions. We therefore very strongly approve of the recommendation of the Commission that a properly equipped central authority should be appointed for determining the differences between the local authority and the manufacturer. It is proposed that this central authority should possess its own laboratory and have as its chief permanent officers (1) an administrative head; (2) a bacteriologist having special knowledge of the bacteriology of sewage, trade effluents, and water-supply; (3) a chemist having special knowledge of the chemistry of the same; and (4) an engineer having a special knowledge of geology and water-supply. It is also proposed that an epidemiologist should be added to the staff of the central authority in connexion with the pollution of rivers and the protection of sources of water-supply. In fact, besides the question of settling disputes as to the discharge of waste and sewage into sewers and rivers the central authority, it is suggested, should exercise a general superintendence over the whole country in regard to the prevention of the pollution of water.

The Commissioners are continuing their investigations in regard to a number of artificial processes of dealing with the disposal of sewage. They are also investigating the question of the discharge of sewage, sewage effluents, and manufacturing effluents into tidal waters with especial reference to the contamination of shell-fish. Again, investigations have been instituted for the purpose of ascertaining whether it is practicable to destroy those possibly dangerous micro-organisms which are common in sewage effluents in those instances in which they are discharged into a river from which water for drinking is drawn. Finally, the methods available for the satisfactory disposal of industrial effluents when not mixed with ordinary sewage are shortly to receive consideration. We doubt whether a Royal Commission has ever before faced a more intricate subject or one developing more paths of investigation than that which is presented by the effectual disposal of sewage and waste in all forms and the protection of our water-supplying streams. Its labours, in short, are clearly in the nature of an original research.

## MEDICINE AND THE LAW.

### *An Employment of Children Bill.*

A BILL of some importance has been introduced in the House of Commons with a view to making better provision for regulating the employment of children, where it has not been already regulated by Act of Parliament. This is a Government measure introduced by the Home Secretary. It is proposed that the objects of the Bill should be mainly carried out by county and borough councils, to which large powers are given to frame suitable by-laws within their jurisdictions with respect to all occupations or to any specified occupations, laying down the age below which children are not to be employed and limiting the hours of employment. These by-laws may also prohibit absolutely or permit subject to conditions the employment of children in any specified occupation which may be shown to be dangerous to health or to morals. It is further forbidden by the Bill itself, as distinct from the by-laws to be made by local councils, that children should be employed at night or when under 11 years of age for the purposes of street trading, or for lifting heavy weights likely to injure them, or, generally, in any occupation likely to be injurious to the life, limb, or health of the child, regard being had to his physical condition. County and borough councils are empowered to make by-laws to regulate street trading by persons under 16 years of age, but for the general purposes of the Bill, and subject to specified exceptions, a child is defined as one under 14 years of age. Provision is made for the submission of by-laws to the Secretary of State and for enforcing by suitable penalties the Bill and by-laws made under it. Fines are provided for those who employ children in contravention of this Bill, for parents and guardians who knowingly permit such employment, and in the case of persons under 16 years of age trading in contravention of by-laws the offender may be fined or, if under 14 years of age, may for repeated offences be sent to a reformatory. From the brief outline thus given it will be seen that this Bill, though possibly open to criticism and amendment, is one which merits serious attention from all those to whom the morals and health of the young are matters of interest and solicitude.

### *Another Vaccination Bill.*

Besides the Bill introduced by Mr. Channing to provide that no prosecution under the Vaccinaton Acts shall be held without the authority of the guardians, another—inspired by similar sympathies and prejudices—would enact that: "From and after the passing of this Act no parent or person having the custody of a child shall be compelled or ordered to vaccinate such child by any justice, court, or other person, having authority hitherto, to so compel or order; and so much of Sections 29 and 31 of the Vaccination Act of 1867 as enacts that any parent or person having the custody of a child shall be compelled or ordered as aforesaid is hereby repealed." For this legislative effort Mr. Broadhurst is responsible. It is backed by Mr. Thomas Bayley, Sir John Rolleston, Mr. Channing, and Mr. Corrie Grant.

### *Grocers' Licences.*

A large number of the private Bills introduced in the House of Commons relate to matters indirectly of interest to the medical profession, such as those which refer to the housing of the working-classes and to the drink question. Of those which deal with the latter topic two have for their object the freeing of tied houses and one aims at doing away with what are known as grocers' licences in Scotland. The dangers which have arisen, particularly with regard to women, through the sale of wines and spirits by grocers and provision dealers are too well known to require recapitulation. The Bill in question recites in its preamble that "the combination of the grocery and spirit trade in Scotland has been productive of great evil," and proposes to forbid the granting of licences to grocers and provision dealers and the carrying on of grocery and provision businesses by licensed persons after specified dates in the year 1905. The Bill is brought in by Sir John Leng and is backed by Mr. Crombie, Mr. Dalziel, Mr. Pirie, and Mr. Hunter Craig.

### *A Criminal of Doubtful Responsibility.*

Dr. H. Crutchley of Alsager has written a letter to the *Staffordshire Sentinel* calling attention to the conviction of a man named Bagnall upon his own confession at the Staffordshire assizes for a serious assault. The prisoner was apparently employed at a pottery and it was the duty of the person assaulted (Mr. Gater) to superintend his work. Mr. Gater found fault with some jug handles and having turned away was violently attacked by the prisoner who threw jugs and moulds at him and also drew a knife. He then had a "seizure" or "fit" and when he became conscious again denied all knowledge of what he had done. Dr. Crutchley refers to the article, "Insanity and Epilepsy," p. 342, vol. viii. of Allbutt's System of Medicine, 1899, and shows the close resemblance between the successive acts of Bagnall and the symptoms there detailed as preceding and following dangerous acts committed by epileptic patients. Dr. Crutchley makes out a strong case in favour of his view that Bagnall "was sentenced for an uncontrollable act committed when reason was dethroned," and expresses the hope that steps will be taken to obtain an alteration of the sentence of two months' imprisonment by questions in the House of Commons or by direct application to the Home Secretary. A difficulty would presumably arise in this case owing to Bagnall having, as Dr. Crutchley says, "been advised to plead guilty," which presumably means that, whatever his position may have been, he had the advantage of legal assistance and formally admitted his crime. We should be inclined to think, however, that the Home Office would give serious consideration to a communication with reference to a recently sentenced prisoner, supported by the opinion of a medical man having knowledge of the facts of his crime and trial, even in circumstance such as those described. Reference to the

latest criminal statistics shows that in the year 1901 out of 791 criminal lunatics under detention 113 had been certified after conviction, and that on the Home Secretary's advice the prerogative of mercy was exercised by the Crown in 420 instances for various reasons. These figures would seem to show that the case of the condemned prisoner is not hopeless even after sentence has been passed upon him. It must be remembered, from another point of view, that if the prisoner serves his term of imprisonment the matter will be closed. This may be more satisfactory to him than the other courses which might have been adopted had the evidence been gone into.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8820 births and 4682 deaths were registered during the week ending March 28th. The annual rate of mortality in these towns, which had been 16·6, 17·2, and 17·0 per 1000 in the three preceding weeks, further declined to 16·2 per 1000 last week. In London the death-rate was 16·5 per 1000, while it averaged 16·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·3 in Handsworth, 6·7 in Hornsey, 8·7 in Grimsby, 8·8 in Walthamstow, 9·4 in Willesden, 9·8 in Wallasey, 10·6 in King's Norton, and 10·9 in West Hartlepool; the highest rates were 20·6 in Hanley and in Bootle, 20·8 in South Shields, 21·5 in Bury, 21·9 in Manchester and in Rotherham, 22·4 in Swansea, and 26·1 in Stockton-on-Tees. The 4682 deaths in these towns last week included 489 which were referred to the principal infectious diseases, against 501, 483, and 492 in the three preceding weeks; of these 489 deaths 157 resulted from measles, 121 from whooping-cough, 68 from diphtheria, 60 from diarrhœa, 35 from scarlet fever, 35 from "fever" (principally enteric), and 13 from small-pox. No death from any of these diseases was registered last week in Hastings, Brighton, Ipswich, Smethwick, or Grimsby; among the other towns they caused the lowest death-rates in Willesden, Plymouth, Preston, Halifax, and Leeds, and the highest rates in Croydon, Tottenham, West Bromwich, King's Norton, Wigan, Bury, Salford, Rotherham, Rhondda, and Swansea. The greatest proportional mortality from measles occurred in Croydon, Tottenham, West Ham, Devonport, West Bromwich, Kings Norton, Wigan, Salford, Tynemouth, and Swansea; from scarlet fever in St. Helens; from diphtheria in Hanley and Swansea; from whooping-cough in Croydon, Tottenham, West Bromwich, Leicester, Stockport, Wigan, Manchester, Oldham, and Rotherham; and from "fever" in Rhondda. Seven fatal cases of small-pox were registered in Liverpool, and one each in Walsall, Birkenhead, Bury, Manchester, Rochdale, and Blackburn, but not one in any other of the large towns. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been six, seven, and seven at the end of the three preceding weeks, had further risen to 11 at the end of last week; five new cases were admitted during the week, against two in each of the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1756, against 1790, 1798, and 1789 at the end of the three preceding weeks; 213 new cases were admitted during the week, against 193, 231, and 220 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 251, 258, and 282 in the three preceding weeks, declined again last week to 250 and were 203 below the corrected average number. The causes of 48, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Nottingham, Salford, Newcastle-on-Tyne, and in 48 other smaller towns; the largest proportions of uncertified deaths were registered in Hanley, Birmingham, Liverpool, Sheffield, Rotherham, and Sunderland.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·5, 19·7, and 20·1 per 1000 in the three preceding weeks, declined again to 18·6 per 1000 during the week ending March 28th, but showed an excess of 2·4 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·0 in Leith and 15·1 in Paisley to 19·8 in Glasgow and 21·7 in Dundee and in Perth. The 609 deaths in these towns included 37 which were referred to whooping-cough, 17 to diarrhœa, 12 to measles, five to "fever," three to scarlet fever, and three to diphtheria, but not one to small-pox. In all 77 deaths resulted from these principal infectious diseases last week, against 75, 67, and 68 in the three preceding weeks. These 77 deaths were equal to an annual rate of 2·4 per 1000, which was 0·7 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 32, 28, and 32 in the three preceding weeks, further rose last week to 37, of which 22 occurred in Glasgow, six in Edinburgh, five in Greenock, and two in Dundee. The deaths from diarrhœa, which had been 12 and 14 in the two preceding weeks, further rose to 17 last week, and included nine in Glasgow, four in Dundee, and two in Aberdeen. The fatal cases of measles, which had been 15 and eight in the two preceding weeks, increased again last week to 12, of which five were registered in Aberdeen, four in Edinburgh, and two in Glasgow. The deaths referred to different forms of "fever," which had been two, three, and five in the three preceding weeks, were again five last week and included three in Glasgow and two in Edinburgh. The fatal cases of scarlet fever, which had been four and six in the two preceding weeks, declined again last week to three and were all registered in Glasgow, where the three deaths from diphtheria also occurred. The deaths referred to diseases of the respiratory organs in these towns, which had been 97, 117, and 134 in the three preceding weeks, declined again last week to 100, and were 73 below the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 27·8, 26·6, and 27·7 per 1000 in the three preceding weeks, further rose to 29·3 per 1000 during the week ending March 28th. During the past four weeks the death-rate has averaged 27·9 per 1000, the rates during the same period being 16·6 in London and 19·7 in Edinburgh. The 213 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 12 over the number in the preceding week and included 18 which were referred to the principal infectious diseases, against nine, 10, and eight in the three preceding weeks; of these, six resulted from whooping-cough, three from "fever," two from measles, two from scarlet fever, two from diphtheria, two from diarrhœa, and one from small-pox. These 18 deaths were equal to an annual rate of 2·5 per 1000, the death-rate last week from the same diseases being 2·1 per 1000 both in London and in Edinburgh. The fatal cases of whooping-cough, which had been two in each of the two preceding weeks, increased last week to six. The deaths from "fever," which had been two in each of the two preceding weeks, rose to three last week. The fatal cases of diphtheria, which had been two and three in the two preceding weeks, declined again to two last week. The deaths from diarrhœa numbered two last week, against one in each of the two preceding weeks. The 213 deaths in Dublin last week included 35 of children under one year of age and 59 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding week. Four inquest cases and seven deaths from violence were registered, and 83, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 11, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon W. E. Bennett to the *Clyde*. Staff Surgeons P. W. Bassett-Smith and G. Welch to be Fleet Surgeons, with seniority of March 26th, promoted for conspicuous merit; J. H. Whelan to the *Edgar*, on commission, to date April 9th. Surgeons: E. A. Shaw, F. H. A. Clayton, F. J. A. Dalton, and E.

Sutton to be Staff Surgeons, with seniority of March 26th, promoted for conspicuous professional merit; R. W. B. Hall to the *Edgar* on commission.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Rowney is placed under orders for service in India. Major E. C. Freeman has arrived at Portsmouth for duty. Colonel Rooney is placed on retired pay. Dated March 22nd, 1903. Lieutenant-Colonel Rennie retires on retired pay. Dated March 28th, 1903.

The transfer to temporary half-pay on account of ill-health of Major J. I. P. Doyle will take effect from Dec. 1st, 1902.

The confirmation of the undermentioned Lieutenants in that rank, which was notified in the *London Gazette* of March 10th, 1903, is cancelled: W. F. Ellis and F. L. Henderson.

IMPERIAL YEOMANRY.

Suffolk (The Duke of York's Own Loyal Suffolk Hussars): Walter John Hervey to be Second Lieutenant. Dated March 28th, 1903. Surrey (the Princess of Wales's): Reginald Courtenay Gayer to be Surgeon-Lieutenant. Dated March 17th, 1903.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Lieutenant-Colonel Sir J. R. A. Clark, Bart., C.B., is granted the honorary rank of Colonel. Dated March 5th, 1903.

VOLUNTEER CORPS.

*Royal Garrison Artillery (Volunteers):* 2nd Glamorganshire: Lieutenant S. H. Hoyle to be Captain (dated March 28th, 1903); Surgeon-Lieutenant C. O. Parsons to be Surgeon-Captain (dated March 28th, 1903).

*Rifle:* 2nd Volunteer Battalion the York and Lancaster Regiment: Alfred Robinson to be Surgeon-Lieutenant. Dated March 28th, 1903.

THE KING'S BIRTHDAY.

Notice is given in the *London Gazette* that the King's Birthday will be celebrated in London and at all home stations on Friday, June 26th. At all foreign stations His Majesty's Birthday will be celebrated on Monday, Nov. 9th.

WAR OFFICE REGULATIONS ABOUT THE CHARACTER OF ARMY RECRUITS.

A War Office circular memorandum has been issued with the view of preventing the enlistment of undesirable characters into the regular army and militia. No man is to be accepted in future in any branch of these services who cannot produce a satisfactory reference as to his character and antecedents. If this is not forthcoming, steps are to be taken to obtain the man's character. The recruiting officer is to satisfy himself that the candidate is in every respect a suitable man for enlistment. In order that desirable men may not be lost to the army whilst inquiry is being made recruits may be attested but will not be finally approved until a satisfactory character is forthcoming.

# Correspondence.

"Audi alteram partem."

## THE RETARDED PULSE WAVE IN AORTIC REGURGITATION.

*To the Editors of* THE LANCET.

SIRS,—Dr. Paul M. Chapman in THE LANCET of March 28th, p. 869, quotes me as having said that "the pulse in aortic regurgitation is always retarded or delayed." I beg permission to complete the sentence—"that is, there is an appreciable interval between the beat of the heart, the carotid pulse, and the pulse in the radial artery, which varies according to the extent of the incompetence." The observation was not considered sufficiently important from a clinical point of view to demand full discussion, since the increased interval between the apex beat, the carotid throb, and the radial pulse is simply an incident of the condition of the arterial circulation which gives rise to the collapsing pulse, and while on this account it is interesting the pulse is more trustworthy as evidence of the degree of incompetence.

In examining the question of pulse delay, whether by clinical observation or by experiment, the first point to be made clear is that the case is one in which the regurgitation is considerable. There may be a loud diastolic murmur when the amount of blood re-entering the ventricle is inconsiderable, more particularly when the incompetence is a sequel of degeneration of the aorta with dilatation and rigidity of its walls. Here the absence of delay in the carotid and radial pulse is an item of evidence of the slight regurgitation and of the loss of elasticity in the aorta. Or, again, when from stenosis associated with the incompetence the violent alternation of the blood pressure which gives rise to the collapsing pulse is obviated the retardation need not occur.

Since Dr. Chapman's patient was a young man the first of the conditions cannot be present, but a scientific question being at issue it would have been better to have given the evidence on which was based the statement that there was well-marked aortic regurgitation—e.g., the size of the radial artery, the character of the pulse, the situation, extent, and character of the apex beat, the length and character of the murmur or murmurs, and the presence or absence of the aortic second sound. Even the pulse trace, which in aortic incompetence usually has great significance, in Fig. 2, so far as I can make it out, tells us nothing whatever as to the amount of regurgitation, and I should be disposed to interpret the cardiogram as indicating stenosis as well as incompetence. I should further infer the existence of stenosis from the statement that the heart muscle was largely hypertrophied, and especially from the fact that the duration of the systole was at its extreme maximum.

I try to keep my eyes open and my mind free from prepossession, but I have found no reason to doubt the accuracy of the observation that in real aortic incompetence there is delay in the carotid throb and radial pulse. Let anyone sit down before a case in which the physical signs of regurgitation enumerated above are well marked, with the tip of the finger of one hand on the apex beat, his eye on the carotid, and the fingers of the other hand on the radial pulse with the hand well raised, and, according to my experience, he will be able to count one, two, three, as one event follows the other. I have, indeed, found in aortic regurgitation with a failing heart and demonstrated to a class of students an intermission of the apex beat synchronous with the beat of the pulse belonging to the preceding systole, while the pulse was absent at the instant when the next heart beat was felt.

I am, Sirs, yours faithfully,

March 30th, 1903. W. H. BROADBENT.

## ANGINA PECTORIS.

*To the Editors of* THE LANCET.

SIRS,—In his ingenious paper on angina pectoris in THE LANCET of March 21st, p. 793, Dr. E. H. Colbeck ascribes the pain experienced in the anginal paroxysm to localised distension and stretching of the ventricular wall. The chief difference between this explanation of the pain in angina pectoris and that which I advanced in a paper on cardiac pain and angina pectoris in the *Practitioner* for October, 1891, vol. xlvii., p. 241, is that he postulates a patchy degeneration of the ventricular wall while I assume that the symptom may be caused by weakness of the ventricular wall such as may be due to fatty degeneration either general or partial. In that paper I point out that there are probably several varieties of cardiac pain. It is not to be wondered at, however, that opinions differ very greatly in regard to their causation, because when a medical man is called in to such cases his whole attention is usually taken up by his efforts to help the patient and he has great difficulty in making accurate observations on the causation of the symptoms. It is only when one has a case of frequently recurring angina under close observation, as I had in 1867, that one is able to note what changes occur in the circulation during the attack. I saw the patient almost every night for several months together and was able to notice the high blood pressure during the attack and its fall as the attack passed off. But in such favourable circumstances I was only once able to make an observation, and that an imperfect one, during its onset.

The sphygmographic tracings which I obtained showed most clearly that during an attack the pulse became small, rapid, and tense, exactly like what one would expect from a heart too weak to empty itself against the resistance of high arterial pressure. If I understand him aright Dr. Colbeck

says in his paper that distension of the heart and stretching of the nerve elements in the cardiac wall cannot coexist with an increased arterial pressure, but I cannot see on what grounds this statement is made. In my paper on cardiac pain and angina pectoris I have compared the pain in the heart during angina to that which occurs in the bladder or colon when these are distended and trying in vain to empty themselves. And here I may note that a sharp distinction must be made between distension and dilatation, for in all these cases it is possible for the organ to remain of its normal size or be even smaller than normal, yet be extremely distended and both its contents and its muscular walls be under great pressure because these walls are contracting firmly on the contents of the viscus. On the other hand, all three organs may be dilated much above their normal size and may not be distended at all. As I have pointed out in the paper to which I have already referred the condition which causes intense pain in the colon and bladder is an attempt of the muscular walls to expel their contents against a resistance which they are unable to overcome. Judging by analogy I consider the cardiac pain in one form at least of angina pectoris to be due to the ineffectual attempts of the heart to empty itself in face of increased arterial pressure, though how far the pain is due to distension and how far to irritation of the sensory nerves in the heart by violent contraction of its muscular fibres I cannot say. Pain will occur in the colon and bladder without any patchy degeneration of their walls. Patchy degeneration of the heart will undoubtedly enfeeble it, will give rise to inability to empty itself in face of increased arterial pressure, and may thus produce the symptoms of angina pectoris. But unless it can be shown that angina occurs only when the heart has undergone patchy degeneration and does not occur when degeneration occurs evenly over the whole ventricle, Dr. Colbeck's hypothesis, ingenious as it is, cannot be regarded as proved. In favour of the correctness of my own opinion I may adduce the fact that it led me to employ an entirely new method of treatment—namely, the lowering of arterial pressure by the administration of nitrite of amyl. I first described this method in THE LANCET of July 27th, 1867, p. 97, and the success of my plan of lowering the blood pressure either by this drug or by others which have a similar action has been conclusively proved by an experience of more than 35 years.

I am, Sirs, yours faithfully,

March 25th. LAUDER BRUNTON.

## THE QUARANTINE STATION AT MARSEILLES.

*To the Editors of* THE LANCET.

SIRS,—As one of the passengers who landed at the island of Frioul from the *Oroya* on Jan. 10th last I would like to add a few words to those of your Paris correspondent in THE LANCET of March 21st, p. 844. I preface my remarks, and I am sure all the others who were present would do the same, with an expression of profound sympathy with M. Tessier and his family in the loss which they have sustained. The death of the young man is undoubtedly due to the detention, under misrepresentation, at the lazaretto.

In addition to the defects which your correspondent notes and to the discomfort arising from the eternal mistral I particularly mention the sanitary arrangements: so disgusting were they that being a member of a profession which concerns itself with these matters, and finding no attendance, I frequently during the five days, myself, did housemaid's duty. One is bound to say that the food was good, but the place in which it was prepared was very dirty and was the common room of many undesirable persons. Of the minor discomforts and the want of the small necessities of life I do not speak; they were many and irritating, especially to the seven ladies concerned. I am sure that all present at Frioul, French, Hungarian, and English, agree with your correspondent that the quarantine station at Marseilles is a disgrace to France.—I am, Sirs, yours faithfully,

THEO. MOORE, A.R.I.B.A.

Caroline-place, Mecklenburgh-square, W.C., March 30th, 1903.

## THE TEETH OF THE PITCAIRN ISLANDERS.

*To the Editors of* THE LANCET.

SIRS,—In November, 1901, the daily and medical papers made comments on an interesting minute (February, 1899, and August, 1901) published by the Admiralty concerning the Pitcairn islanders. My attention was directed more especially to the details mentioned concerning the state of decay of the upper front teeth (permanent) so noticeable in many of the islanders. I wrote to the Lords of the Admiralty asking whether they would allow a series of questions concerning this feature of the teeth to be given to the medical officer of the first man-of-war which might visit Pitcairn Island. Their lordships at once agreed to this. Mr. C. S. Tomes very kindly revised a list of questions which I drew out and we then submitted the following questions (see inclosure No. 1) to be given to the medical officer of His Majesty's ship that might visit the island. The original papers were given to H.M.S. *Condor*, which vessel unfortunately was lost. Thanks to the care of the Admiralty a further copy of our questions was sent out and the following interesting communication (see inclosures Nos. 2 and 3) has been received which may be of interest to your readers.

I am, Sirs, yours faithfully.

J. KINGSTON BARTON, M.R.C.P. Lond.

London, March 29th, 1903.

[INCLOSURE No. 1.]

QUESTIONS.

The loss of front teeth has been noted by two independent observers and among other speculative causes it has been attributed to degeneracy due to in-and-in-breeding but inadequate information is given whereon to form any opinion.

*General.*

1.—What proportion of the population are affected in this way?
2.—Is there any difference in the sexes in this respect?
3.—Are the back teeth also bad in the persons thus affected, or has some cause acted on the front teeth alone?
4.—Would you say that the teeth had decayed and broken off, or are they worn away?

*Family.*

5.—Do the families affected differ in general physique from those which are not?
6.—Are these families of European type as regards hair, features, &c., or do they show indications of admixture with Polynesian blood?

*Specific.*

7.—Can you learn of any habits—such as, for example, betel-nut chewing—which might influence the teeth?
8.—Or do they make any unusual use of their teeth in any of their handicrafts?
9.—Ask, in cases where the teeth are much decayed, if as an infant the child was breast fed for the usual period (six to nine months). If not, what food was given?
10.—Have you observed Hutchinson's teeth or any other marks of inherited syphilis among them?
11.—Would you say that the mental dulness noted as somewhat characteristic of the population is especially conspicuous in the persons having bad teeth?

Nov. 20th, 1901. (Signed) C. S. TOMES. (Signed) J. KINGSTON BARTON.

[INCLOSURE No. 2.]

To Commander C. H. Umfreville, H.M.S. *Shearwater*, Pacific Station.

H.M. Ship *Shearwater*, at sea, 17th January, 1903.

SIR,—On landing at Pitcairn Island with you on 10th January, 1903, I proceeded in pursuance of orders received to inquire into the alleged loss of the front teeth of the upper jaw amongst the inhabitants of this island. On the way from the landing place to the settlement and going through the settlement I met many of the inhabitants and was very much struck by the fact that many of them were minus the front teeth of the upper jaw.

I carried out my inquiries concerning this peculiar phenomenon on the lines suggested by Mr. Tomes and Mr. J. Kingston Barton in their letter to the Secretary of the Admiralty of 20th November, 1901. The total population of the island is 153. This number is thus made up—males 74, of whom 27 are married; females, 79. Mr. Christian very kindly collected together a number of the inhabitants for me to examine. There were present 36 in all. These 36 were a very representative gathering, as there were 14 adult males, 10 adult females, seven male children, and five female children present.

Out of this number, six men, three women, four male children, and three female children showed the remarkable loss of front teeth. From these figures one may say that 50 per cent. of the people are affected and that there is practically no difference in the sexes. In all these cases, and especially in the younger people, the remainder of the teeth—i.e., the back teeth of the upper jaw and all the teeth of the lower jaw—were quite sound, in fact remarkably good. Most of the islanders had excellent teeth, barring the deficiency of the front in some cases.

The incisors are apparently the only teeth affected in this peculiar manner—at all events, that was the case in the people I saw and Mr. McCoy's testimony bears me out in this statement. These teeth break off owing to caries which sets in in childhood. Mr. McCoy informed me that this decay commences soon after the permanent teeth are established and usually first attacks one of the middle incisors. One of the children I saw was thus affected. The other incisors soon become carious and break off close to the gums. As a rule Mr. McCoy extracts the stumps. Apparently if the teeth in childhood escape the peculiar form of caries they are not thus attacked in later life. Mr. McCoy also informed me that this dental trouble made its appearance for the first time amongst the fourth generation of islanders and certainly three old men whom I saw of the third generation did not present this phenomenon. He says the children are more troubled in this way now than they were some 30 or 40 years ago.

The children of Mr. Coffin, who has been 22 years on the island, are not affected, whereas the children of Mr. Warren who settled on Pitcairn Island in 1864 were affected. Both Mr. Coffin and Mr. Warren married Pitcairn women. The families whose children are affected differ in no way, physique or otherwise, from the remainder of the

inhabitants—in fact, I think most of the families have some members who exhibit these caries. The islanders generally have the Polynesian type of countenance—some more than others—but all types are equally troubled with their teeth.

The class of food eaten by the islanders does not, I think, in any way account for this early decay of teeth. The people mostly live on fruit which is abundant and consists of oranges, pineappies, figs, bananas, &c. The only flesh meats they have are goats and fowls. They do not chew betel-nut or put their teeth to any extraordinary use. I saw no signs of syphilis in any of the cases I examined. In fact, I was struck by their remarkably healthy appearance. Some of the inhabitants do not appear to be very bright or over intelligent, but this may have been due to shyness before strangers. They do not show any marked signs of degeneration. The children are always breast fed by their mothers and are weaned at the usual time. I tested a sample of the drinking water and found it to be of excellent quality and free from all impurities. It contained no lime salts.

Appended are short answers to the direct questions asked by Mr. C. S. Tomes and Mr. J. Kingston Barton.

I am, Sirs, yours faithfully,
(Signed) B. SCRIBNER, Surgeon.

[INCLOSURE No. 3.]

ANSWERS TO QUESTIONS IN ADMIRALTY LETTER OF 20TH NOVEMBER, 1901.

*General.*

1.—50 per cent.
2.—No.
3.—Some cause has acted on front teeth alone.
4.—Decayed and broken off; never worn away.

*Family.*

5.—Affected families differ in no way from remainder of population.
6.—No. Distinctly Polynesian.

*Specific.*

7.—No.
8.—No.
9.—Breast fed.
10.—No.
11.—No.

(Signed) R. B. SCRIBNER, Surgeon, R.N.

## THE MAKING OF POST-MORTEM EXAMINATIONS BY GENERAL PRACTITIONERS.

*To the Editors of* THE LANCET.

SIRS,—I feel sure that many medical men will fully agree with Dr. H. H. Littlejohn's remarks on the above subject published in THE LANCET of March 28th, p. 862. The mere fact that it is possible to obtain diplomas in medicine and surgery without having even been present at a post-mortem examination is sufficient to throw a doubt on the reliability of such examinations when made without skilled assistance. In addition to this I consider that it is work from which a general practitioner would be much better relieved seeing that he may have to go straight from a post-mortem examination to a confinement, or a compound fracture.

I am, Sirs, yours faithfully,
EDWARD H. SWEET, B.A. Oxon., M.R.C.S. Eng.,
L.R.C.P. Lond.

Uckfield, March 30th, 1903.

## THEORIES OF IMMUNITY.

*To the Editors of* THE LANCET.

SIRS,—It seems to me that purely imaginary theories like that of Ehrlich are of use only if they simplify the facts which have been ascertained. The subject of immunity is one of the utmost importance and we are already in possession of many important facts in regard to it. If, therefore, Ehrlich's theory systematised these so as to give some insight into the guiding principles, so as to make the connexion between the different facts evident, so as to guide to the discovery of new facts, we might excuse its tangles of fantastic figures and erudite equations. But does it do any of these things? Dr. A. S. F. Grünbaum's explanations of Ehrlich's theories occupy your columns to-day. He tells us that a toxin molecule contains $H + T + X$. I can quite believe it. My acquaintance with organic chemistry would have led me to expect much more of it. But what is the use of all these cytophiles and haptophores? I may be stupid, but I cannot see it. The explanatory figures might, indeed, suggest new ideas to the designers of new carpets or wall-papers, but they do not to my mind convey a particle of useful information to a medical practitioner who wants to know enough of the processes of disease to be able to combat them.

I am, Sirs, yours faithfully,
Welbeck-street, W., March 27th, 1903. HUGH WOODS.

## A DISCLAIMER AND A WARNING.

*To the Editors of* THE LANCET.

SIRS,—I am informed that a man of the name of "Dr. East" (or some similarly sounding name) is calling on medical men in Brighton describing himself as "Dr. Crocker's assistant" and trying to sell copies of my Atlas of Diseases of the Skin. I write to say that I know nothing of this person who is making this unauthorised use of my name and, except at the hospital, have no assistant. I may add that the Atlas is the property of the publisher and my only interest is a small royalty on each copy sold.

I am, Sirs, yours faithfully,
Harley-street, W., March 30th, 1903. H. RADCLIFFE CROCKER.

P.S.—I have since been informed that the man's name is Heath.

## THE RYE AND WOOLWICH ELECTIONS.

*To the Editors of* THE LANCET.

SIRS,—I am obliged to you for permitting me to rectify a mistake which some of the daily papers fell into in reporting what I said about these elections at our recent conference. In referring to them I mentioned that the anti-vaccinists in both constituencies had assisted the winning members: in the case of Mr. Will Crooks because he was an anti-vaccinist and in the case of Dr. Hutchinson because he was an anti-compulsionist. As we are fighting against compulsion we can conscientiously vote for a candidate who is opposed to the present law, which inflicts fines of 20*s.* and costs for the misdemeanour of taking the advice of a qualified medical man if he advises that a child should not be vaccinated.

I am, Sirs, yours faithfully,
Edgbaston, March 31st, 1903. A. PHELPS.

*** The *Times* and other responsible journals reported General Phelps as claiming Dr. Hutchinson as an opponent to vaccination. General Phelps should have written to these newspapers to rectify the widespread mis-statement without waiting until his attention was called to it by us.—ED. L.

## WANTED—A NEW ORDER OF NURSES.

*To the Editors of* THE LANCET.

SIRS,—A question which has often suggested itself to me and to others is this. At present there are, I suppose, but three kinds of nurses available in a case of sudden illness—viz., (1) the institution nurse at £2 2*s.* a week; (2) the ordinary occasional private nurse, generally a comparative amateur; and (3) the infirmary visiting nurse. But it is apparent that these three alternatives cover only half the ground. In suburban London alone there must be thousands—scores of thousands—of households where the needs are not answered by any one of the three. I mean especially the households where no servant is kept—a kind of household getting very rapidly more numerous as servants get scarcer and the already appalling bill for rent and rates gets larger. In such families there are frequently both too little of poverty and too much of refinement either to justify or to make possible the infirmary nurse. The institution nurse would not go (even were the expense smaller) because the institution nurse is supplied on the understanding that she receives domestic attendance and does nothing but nurse the patient. The attendance would not be forthcoming and hence, as I say, she would not go. There remains only the private nurse. Some of these are most excellent people, but when driven into a corner in an emergency the medical man no less than the family may discover that they do not know of a private nurse who is disengaged. Moreover, there is a growing prejudice in favour of more science than these nurses ordinarily possess. What I submit to be necessary and urgent is this, some institution on a large scale whence, at any time of day or night, could be got for a guinea a week a nurse who would undertake not only the bare attendance on the patient, but such additional work as the preparation of her own and the patient's food, leaving any rough work to, let us say, a charwoman. Surely there must be plenty of women skilled in nursing who would not despise an opportunity of this kind? It would be infinitely better, too, for a medical man to find a practical scientific nurse at a bedside to whom he could give his directions rather than some unskilled amateur. As to the need, it is simply a crying one. It must be borne in mind that the neighbourliness which is assumed

in cases of illness and which does undoubtedly tend to solve such questions in the country is not to be relied upon in London. Every day one meets somebody who tells you that he and his wife have lived in the same suburb for so many years and "don't know their next-door neighbours," or half a dozen people in the close vicinity. Therefore I venture to ask your help.

I am, Sirs, yours faithfully,

March 3rd, 1903. R. A. R.

## NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

*More Plague Superstitions.—Improvements in Calcutta: a Serious Omission.—The Plague Epidemic: a Record in Mortality.—The St. John Ambulance Centre at Bombay.—Further Donation by Mr. Henry Phipps.—Indian Nursing Service.*

EXTRAORDINARY evidence of the superstition which exists among the lower classes of the population has come to light in one of the suburbs of Bombay city where plague is raging. A woman caused a report to be made that she was possessed of a goddess and could cure plague, and having gathered a large crowd gave out that by sacrificing four sheep, two rams, and other things plague would be stopped. She also tried to do miracles, but the most ghastly proceeding was reached when she began sucking a bubo. Other cases were treated in a similar manner, by sucking or biting the bubo, applying a red powder, and pressing betel nut on the bubo with her toe. She then beat her patients with a green staff to drive out the plague, each operation lasting about 20 minutes. A considerable number of patients were treated in this manner, but the point of the story lies in the sympathy of the people and their obeisances to the woman along the public road and in the police-court. She was charged with causing a public nuisance.

The Budget estimates of the Calcutta corporation have been prepared with the object of effecting many important improvements during the ensuing year. 19 lakhs are to be spent on the suburban drainage, 13 lakhs on the continuous water-supply scheme, and no less than 70 lakhs on various public works. There are to be great extensions of roads and widening of many important thoroughfares and opening out of congested areas. Markets, slaughter-houses, and incinerators are all to be extended. In addition to the above, the great scheme for the improvement of Calcutta under a separate trust is to be taken in hand the details of which will be announced by Government shortly. Certain parts of the city of Calcutta are as bad as, if not worse than, any town in India and very widespread improvements will have to be effected to alter its insanitary condition. Perhaps the greatest fault is in the latrine accommodation for the great mass of the people, more especially in the bustees. The filthy state of the privies is general, partly because the hand removal of the excreta is very imperfect, but it is partly also due to dirty habits, to faulty construction, and to deficiency of drainage. I regret to see that nothing is reported as having been arranged to meet this most crying evil.

During the past fortnight there has occurred a record in plague mortality throughout India. Last week 28,860 deaths were reported and during the week before 27,319 deaths. The highest previous record was 26,108 in March last year. The mortality now is at the rate of over a million annually. Bombay Presidency returns 10,444 deaths, the Punjab 5642, Bengal 3436, United Provinces 3204, Central Provinces 1852, Madras Presidency 643, Mysore State 423, Hyderabad State 861, and Berar 653. Bombay city reports 1182 deaths and Calcutta 468. The epidemic is spreading in the Punjab, in Bengal, in the United Provinces, in the Central Provinces, and in Madras. The outbreaks in both Bombay city and Calcutta are developing with great intensity. In Bombay the rate of general mortality has risen to 124 per 1000 per annum. It is understood that the transfer of all plague preventive measures to the ordinary health department which is contemplated in Calcutta from July 1st next is part of a general scheme which is to be widely applied throughout India. Plague is no longer to be put on any different footing from other epidemic diseases. Such establishment as is considered necessary will be placed under the direction of the sanitary authorities.

The presentation of certificates of the St. John Ambulance Association at Bombay by H.R.H. the Duke of Connaught afforded the supporters of this movement an opportunity to announce the work which has been done on this side of India. 420 men and 158 women have earned certificates. The instruction in first-aid has been given to railway servants, soldiers, and police, both native and European. The Bombay centre has been very active and the Duke of Connaught had good reason to congratulate the staff upon the excellent work which they had accomplished. Several instances have already occurred where the instruction given has resulted in practical benefit.

It is said that Mr. Henry Phipps is so pleased with the purposes to which the Viceroy decided to devote the donation of £20,000 which he gave for the benefit of the people of India and which the Viceroy divided between a central agricultural laboratory and a Pasteur institute for southern India that he has increased his gift by another £10,000. The Government of India hopes to be able to carry out measures for combining agricultural education, scientific research, and practical experiment in one locality.

I understand that the proposed amalgamation of the Indian nursing service with the sister service at home has been abandoned. The Indian service will be strengthened during the next year by three senior nursing sisters and 13 nursing sisters.

March 6th.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

*The General Hospital.*

THIS being the season of the year at which the annual reports of the various hospitals are made public one learns the financial and general position of these institutions for the past twelve months and their needs and aspirations for the future. The General Hospital has done more work than ever during the past year, having admitted 5642 in-patients, the largest number as yet reached and 472 more than in the previous year. The cost of maintaining the hospital is great, though the expenses per head are cut down to the lowest possible figure. The chairman of the medical committee, Dr. R. M. Simon, showed that the cost per head of the in-patients was £3 5*s.* 6*d.*, as compared with £10 5*s.* at St. Bartholomew's Hospital, £7 10*s.* at St. Thomas's Hospital, £4 at the Liverpool Royal Infirmary, and the same amount at the Queen's Hospital, Birmingham. At the meeting of the subscribers to the Queen's Hospital—held shortly after that at the General Hospital, by the way—it was shown that during the past year this figure had been reduced to £3 12*s* 1*d.*, so that there is not much difference between the cost of the two institutions, both of which may be considered as being run upon the most economical lines compatible with satisfactory management. The slight excess of the Queen's Hospital over the General Hospital may easily be accounted for by the fact that the cost per head is necessarily greater in running a small than a large institution. It is not wonderful, with the increased work now being accomplished by the General Hospital, that an appeal for further funds is necessary. This institution has an annual subscription list of £7750, in addition to income from investments amounting to £6000 per annum. The subscriptions of the working men's agencies produce £3100 per annum and the average income yearly from the Hospital Sunday Fund and musical festival amounts to about £3000. The necessary annual expenditure is £25,000, so that the committee is faced with the problem of raising a sum of £5150 every year in addition to the moneys alluded to above. An important addition to the resources of the hospital will be added shortly in the shape of a laundry which is to be built and equipped at the sole expense of Sir John Holder who has for a number of years been one of the most generous friends of the institution. The most important change in the staff has been the retirement of Dr. E. Malins from the post of obstetric officer, which he has held for 25 years. He has been appointed honorary consulting obstetric officer and the vacancy caused by his retirement has been filled by the election of Dr. Thomas Wilson who has been for several years assistant in this department. For Dr. Wilson's post there are several candidates. Dr. Wilson on being appointed to this position at once resigned his post of physician to the City Hospital. There are a number of candidates for this post which should have been filled up by this time but for a

slight hitch which has arisen in the proceedings. At the last meeting of the board of guardians the infirmary committee sent forward two names out of the candidates who had offered themselves for the position. For some reason this procedure did not commend itself to the board which has postponed its decision until its next meeting with a view of considering the claims of all the candidates and not merely of those recommended to it by its committee.

*The Queen's Hospital.*

This charity has also recently presented its report and held its annual meeting. The number of in-patients received during the year was 2065 and that of out-patients was 28,974. There was a deficit of £800 on the income and expenditure account so that further funds are here also required. During the year Mr. J. T. J. Morrison, who has been assistant surgeon for a number of years, has succeeded to the position on the full staff rendered vacant by the resignation of Mr. Frank Marsh who has been appointed a consulting surgeon. Mr. Marsh has also resigned his post as surgeon to the Ear and Throat Hospital where he has been succeeded by Dr. W. Lamb. Quite a number of junior staff appointments have been filled up, Mr. W. Billington and Mr. A. W. Nuthall having become casualty surgeons, Dr. J. G. Emanuel casualty physician, and Dr. A. S. Barnes, who has for some time occupied a resident post at the National Hospital for the Paralysed and Epileptic, Queen Square, London, pathologist. All these gentlemen were students of the local school of medicine, which may be congratulated upon having supplied this hospital with four staff officers in one year. In respect to the last appointment it may be mentioned that the wish was expressed at the annual meeting that a more adequately equipped pathological department might shortly be added to the hospital. That which it at present possesses is scarcely satisfactory and certainly falls behind the very complete provision made for this subject at the sister hospital.

*The Lying-in Charity.*

This body has held its annual meeting at which it was obvious that the important changes in connexion with this branch of medical work which the Midwives Act will bring about have not escaped the notice of the committee. A number of years ago there was a lying-in hospital in the city, which, by the way, was not then a city. It did not work well, or at least it was thought that its success was not sufficient to warrant its continuance and it was closed. Its museum, which contained some valuable specimens, was handed over to the medical school and now forms part of the collection in the medical department of the University. From that date the work of the charity has been purely of an out-patient character, hardly a satisfactory arrangement for so large a centre of population. The Lying-in Charity covers most of the gratuitous work of this kind in the city, for the General Hospital does not touch these cases and the Queen's Hospital has only an out-patient department for the purpose. In this last-mentioned department most of the medical students receive their training. The proposal now made by the committee of the Lying-in Charity is that a home should be erected in a central part of the city in which the secretarial and administrative work of the charity may be carried on and where also a few beds may be provided for the reception of cases requiring special treatment. It is obvious that such an institution would be very valuable, not merely to the poor, but also for the training of midwives and probably of medical students, and it is to be hoped that funds will be forthcoming for the purpose. The committee also desires to extend its present boundaries so as to make them commensurate with the enlarged boundaries of the city and to do this it must add two further districts which will involve an expenditure of £8000.

*Other Hospitals.*

The demands upon the generosity of the public are not exhausted by the three institutions already alluded to. The Women's Hospital requires enlargement and the Dental Hospital is crying out for a new building. For some reason this valuable institution has not received the measure of public support which it certainly deserves and so far the promises of money have not been such as to warrant the committee of the hospital in proceeding with its scheme. The amount of relief given to suffering humanity within the walls of the present building is very great and its value as the place of training of the future dental surgeons of the district is not to be underrated, so that it is much to be hoped that the very modest amount of money now asked for will soon be forthcoming in order that the new hospital may be erected.

*The Education Committee.*

The names of the persons who are to constitute the first education committee under the new Act have just been approved by the city council. Amongst them is the name of Mrs. Ellen F. Pinsent, a paper by whom was recently published in THE LANCET on the feeble-minded children question. This lady has been a member of a hybrid committee of the late school board which deals with these cases and with those of the blind and the deaf. She has taken an extraordinary interest in the work and has devoted an immense amount of time to what is a thankless and depressing task, so that her services will be of great value to the new authority. One of the last acts of the school board was to advertise for a superintendent of the feeble-minded classes who was to be either a qualified medical woman or a woman with special knowledge of the subject. It is understood that a well-qualified medical woman is applying and it is much to be hoped that she or some similar person will be appointed, as there is no doubt that a medical training will greatly assist the occupant of the post in carrying out its duties. Such a person might also contribute to the solution of the difficult question of the best method of treatment of these cases, for it must be confessed that at present it seems as if a great deal of public money was being expended over them without any adequate return. Amongst the other names on the authority is that of one medical man, Professor B. C. A. Windle, F.R.S., Dean of the Medical Faculty in the University. He was a member of the school board for three years though he had not sought a seat upon the board which has just gone out of office.

*The University of Birmingham.*

A much needed addition to the medical school has been made in the shape of a large, well-lighted histology room, the old room used for this purpose being now employed for the work of experimental physiology. The new room is fitted up on the most modern lines, each student having a bench supplied with water and electric light.—The term of office of Professor Priestley Smith, who has represented the Medical Faculty on the council of the University for the past three years, having expired, Professor H. G. Barling has been elected by his colleagues to occupy that position.—Sir Victor Horsley has consented to deliver the address at the opening of the winter session of the Medical Faculty which will take place this year on Monday, Oct. 5th.

March 31st.

## LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

*Ladies' Charity and Lying-in Hospital and the Stanley Hospital.*

THE annual meeting of the subscribers to the Ladies' Charity was held on March 17th, the Lord Mayor presiding. During the year 1636 patients were attended to in the out-door department compared with 1554 in the previous year. 281 patients were admitted during the year. In connexion with the school of midwifery 43 pupil midwives were trained during the year; 37 of these entered for examination, of whom 26 received certificates of having satisfied the examiners. 32 medical students took their midwifery training with the charity during the year in accordance with arrangements made with University College to provide for this branch of the medical curriculum. £408 were received from the Hospital Saturday and Sunday Fund. There was a deficiency of over £400 in the ordinary income. The hospital was founded in 1796 and has carried on a valuable work among the poor of the city and it deserves stronger support.—A new operating theatre has become an absolute necessity at the Stanley Hospital and the committee has expressed its intention of appealing for funds to reconstruct and to furnish the operating theatre in accordance with modern ideas.

*University College, Liverpool.*

The council of University College has appointed Mr. D. Douglas-Crawford, honorary surgeon to the Stanley Hospital, to a lectureship in surgical and applied anatomy. Mr. Douglas-Crawford received his medical education in

Edinburgh, London, and Berlin and has held the post of demonstrator of anatomy at University College for several years. The new appointment has been received with much satisfaction by the students of the college, with whom Mr. Douglas-Crawford is deservedly popular.

*Liverpool School of Tropical Medicine.*

The Senegambia expedition of the Liverpool School of Tropical Medicine, which reached the Gambia in September, 1902, left for Senegal early in March. Dr. J. E. Dutton and Dr. J. Todd have been recently making investigations into the cause of sleeping sickness at M'Carthy's Island which lies about 150 miles up the river Gambia. Bites of flies on this river are said to have caused sleeping sickness in a white man who recently died at the Liverpool School of Tropical Medicine.

*The Small-pox Epidemic in Liverpool.*

For the week ending March 26th 86 cases of small-pox were reported to the medical officer of health, as against 84 in the previous week. Six deaths occurred during the week. There were 321 cases in hospital, compared with 335 in the previous week.

*Is a Nursing Home a Nuisance in a Residential District?*

In the Lancashire Chancery Court, before Vice-Chancellor Hall, an application was made at the instance of residents in the neighbourhood for an injunction in regard to the nursing home at the corner of Ullet-road and the court was asked to decide whether a nursing home was a nuisance to a fashionable residential neighbourhood. On behalf of the defendant counsel quoted from the restrictive covenants, which said that no "art, trade, or business that could be deemed or considered a nuisance to the neighbourhood" could be carried on. That showed, he contended, that a trade or business that could not be deemed a nuisance could be carried on. He further argued that no evidence of nuisance or annoyance had been submitted. The main objection was alleged depreciation of property owing to the presence of the nursing home in the neighbourhood, but there was nothing tangible from past experience or from fears of the future to suggest that any reasonable man would be disturbed in the enjoyment of his property. He would ask the Vice-Chancellor to hold that there was no risk of infection greater than in an ordinary dwelling; in fact, the risk would be less because of the precaution taken to prevent infection. The Vice-Chancellor, in giving judgment, said that the stipulation in the covenants that nothing should be carried on that could be considered a nuisance, as alleged by the plaintiffs, implied that there might be carried on an "art, trade, or business," which could not be considered a nuisance to the neighbourhood. It seemed to him that up to the present time there had been nothing that could be considered a nuisance to the neighbourhood. No complaint had been made as to the sanitary arrangements or appliances of the home and, in his own interests, Dr. A. Stookes, the director of the home, would do all he could to guard against infection. He did not think the question which he had to try was that of the possible depreciation of the adjoining property, for anyone was entitled to use his property in an ordinary way unless he was restricted by some covenant. There was no evidence adduced of actual depreciation and he thought that the question of infection had broken down. It was obvious there was nothing like a legal nuisance. A number of people in the neighbourhood said that they were annoyed, but he was satisfied that, to any reasonable person who looked at the matter without prejudice, there was no solid ground for annoyance beyond the mere sentimental objection to such an institution being there at all. He considered that the action had failed on every ground and it would be dismissed with costs.

At the Liverpool Medical Club recently a discussion ended in the following resolution:—

That all public hospitals ought to be taken over and managed by the State, that the expenses should be borne entirely by the State, and that the medical staff should be paid as State officers.

March 31st.

## WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

*Cardiff Port Sanitary Authority.*

THE importance of Cardiff as a port is incidentally indicated in the annual report of Dr. Edward Walford, medical officer of health to the port sanitary authority. In 1902 there entered the port 12,100 vessels having an aggregate tonnage of nearly 6,000,000. The six sanitary inspectors examined during the year 8179 vessels and found 1404 in a more or less defective or insanitary condition. Dr. Walford states, with evident satisfaction, that ship-owners and masters willingly carry out the recommendations of the port sanitary authority, with the result that the proportion of vessels having sanitary defects among those which frequent the port has decreased in a most marked manner. At the end of January, 1902, four men suffering from beri-beri were removed from a Norwegian barque to the seamen's hospital. The vessel sailed from Rangoon in the previous September, calling at St. Helena on Oct. 16th. The first man sickened on Nov. 29th. Several samples of food and drinking water, together with some hair from each of the four men affected, were examined for arsenic, of which there was found distinct evidence in the samples of hair but not in the food or water. No cases of plague or of suspected plague were brought to Cardiff during 1902, although 17 vessels came from places which were either infected or suspected of being infected with plague. The medical officer of health examined 707 persons on these vessels and the systematic destruction of rats resulted in the cremation of 3835.

*Damages against a District Council.*

A case of some importance to sanitary authorities was heard before Mr. Justice Phillimore at the Cardiff assizes on March 27th. A man living in a detached house claimed £200 damages from the Llandaff and Dinas Powis rural district council because it had neglected to empty a cesspit receiving the sewage from several neighbouring houses. The cesspit is situated near the plaintiff's house and he asserted that the noxious gases which emanated from it had seriously affected the health of one of his children. The defence of the district council was that it was not its duty to cleanse the cesspit, that it had let the work of cleansing to a contractor, whereupon its liability ceased, and finally that the cesspit had been cleansed and any nuisance arising from it was due to defective construction. Judgment was given for the plaintiff for £30 and costs and an injunction was granted restraining the district council from permitting the continuance of the nuisance. The injunction was suspended pending an appeal by the council.

*Bristol Royal Infirmary.*

The annual meeting of the subscribers to this institution was held on March 25th, Sir Charles Cave presiding. The medical report stated that during 1902 the in-patients numbered 3281, against 3246 in 1901. 41,761 out-patients were treated, compared with 41,863 in the previous year. 531 patients were sent to the Victoria Jubilee Convalescent Home—an increase of 114 over 1901. The financial statement showed that the total ordinary income amounted to £11,125, against £11,467 in the previous year. The total ordinary expenditure was £15,415, compared with £15,252 in 1901. The total adverse balance against the institution now amounts to £11,253. The report, in alluding to the annual deficiency in the working of the infirmary, adds that unless greatly increased financial support is forthcoming the committee will be obliged to reduce the work of Bristol's oldest medical charity.

*Bristol Workhouse Infirmary.*

Reference has already been made in THE LANCET of Oct. 4th, 1902, p. 962, to the extremely unsatisfactory accommodation provided by the Bristol board of guardians for the sick poor and imbeciles under its care. With the exception of 36 beds in a stone building and the maternity wards the whole of the infirmary accommodation at the Eastville workhouse consists of wooden buildings or of corrugated iron buildings lined with wood and felt. Nearly 150 more or less helpless patients are housed in these erections. Mr. E. B. Wethered, an inspector of the Local Government Board, has recently reported in very strong terms upon the dangerous character of the buildings and expressed the opinion that in the event of a fire occurring it would be practically impossible for the occupants of the wards to be rescued without loss of life. In a letter to the board of guardians forwarding this report the Local Government Board states that it cannot take the responsibility of allowing the use of the present buildings for a longer time than is absolutely necessary to enable suitable infirmary buildings of a permanent character to be provided. Land has already been secured for the erection of an infirmary sufficient for the needs of the entire union, detailed plans have been drawn, and as long ago as

last September tenders for carrying out the work were actually recommended for acceptance. Unless, therefore, prompt action is taken the Bristol board will incur a very grave responsibility. It is to be regretted that at the meeting of the board of guardians on March 27th several members took exception to Mr. Wethered's report being brought forward at the present time when an election is pending. If the citizens of Bristol persist in electing those who in September last opposed the building of a permanent infirmary they must be prepared to accept the responsibility involved.

*Carmarthen Asylum.*

The weekly charge for the maintenance of the pauper patients sent to the Joint Counties Asylum at Carmarthen has been increased from 8*s.* 5½*d.*, the amount charged last year, to 9*s.* 0½*d.* per patient.

*Diphtheria Antitoxin as a Prophylactic.*

Since early in the present year there has been a serious epidemic of diphtheria in the borough of Hanley, Staffordshire. In January 29 cases were notified, in February 104, and in the first fortnight of March there were 38 cases. About one-half of the patients were removed to the Joint Fever Hospital at Bucknall. Most of the cases were among children connected with one public elementary school which was closed for a period. The corporation has decided on the recommendation of the medical officer of health (Mr. John Clare) to supply antitoxin free of charge to medical practitioners in the town and to pay them a fee of 2*s.* 6*d.* in respect of the first case in a house (other than the patient) treated with antitoxin and 1*s.* for each of the other inmates treated. There is reason to believe that this is the first time an English sanitary authority has dealt with an outbreak of diphtheria by encouraging the use of antitoxin as a prophylactic and it will be interesting to watch the result of the action of the Hanley corporation.

arch 31st.

## SCOTLAND.

**(FROM OUR OWN CORRESPONDENTS.)**

*Edinburgh Royal Hospital for Sick Children.*

THE annual meeting of contributors to the Edinburgh Royal Hospital for Sick Children was held on March 18th. The report of the directors for the year 1902 showed that 1678 cases had been treated in the hospital during the year, as against 1616 in 1901. Of these cases 1163 were medical and 515 were surgical. Of the patients admitted 284 were infants under one year and 246 were over one and under two years of age. This large proportion of infants necessitated a larger nursing staff than would be required for adults or older children. The average daily number of patients under treatment was 95, the average duration of residence being 20 days. The increase in the number of cases would probably have been greater if it had not been found necessary to close the hospital for the greater part of August on account of an outbreak of diphtheria. In the out-patient department the total attendances numbered 21,395. In this department there had been about twice the number of medical cases and four times the number of surgical cases that there were ten years ago. In the ophthalmic department 159 cases had been treated. In the medical electric department there had been 159 cases, while 144 x-ray examinations had been made. There had been 480 operations performed in the surgical theatre of the hospital, an increase of 39 on the previous year. In the out-patient department 920 minor operations had been performed under anæsthetics and 12,769 prescriptions were dispensed free of charge. The new out-patient department was approaching completion and would probably be ready for occupation early in the year. The accommodation in the new building would be much greater than that at present available and would enable the work of the department to be carried on much more efficiently than had been possible formerly. The ordinary income had been £5494 16*s.* 10*d.*, as against £5709 3*s.* 5*d.* in the previous year. The ordinary expenditure had been £8958 4*s.* 7*d.*, showing a deficiency of £3463 7*s.* 9*d.* The directors regretted that the ordinary expenditure exceeded the ordinary income to such an extent. The excess was partly due to an increase of ordinary expenditure to the amount of £134 and partly to a decrease in the ordinary income from a falling off in the country subscriptions and in the church collections. The legacies during the year amounted to £6892 12*s.* The report of the medical officers showed that notwithstanding the increase in the number of admissions there had been rather fewer deaths than in 1902. Of the 190 deaths 79 occurred in children under one year. No less than 59 patients died within 48 hours after admission, the majority of these being practically moribund when they were admitted. One-third of the total number of operations were performed for tuberculous affections, more especially of the joints, bones, and glands, thus showing the serious extent to which children of the poorer and more crowded parts of the city are the victims of tuberculosis. During the year 151 students, male and female, attended the course of clinical instruction in diseases of children which qualified for university graduation.

*University of Glasgow.*

The winter session at the University of Glasgow closed on March 26th. The degree examinations in the various faculties, including that of medicine, are now proceeding. The graduation ceremony and the distribution of prizes will take place on April 21st.

*St. Mungo's College.*

The annual distribution of prizes took place in the buildings of St. Mungo's College on March 26th. Dr. James Finlayson, President of the Faculty of Physicians and Surgeons of Glasgow, occupied the chair. There was a large gathering of students and friends. The prizes and certificates were distributed by Mr. Hugh Brown, president of the school.

*Memorial to Dr. John Young.*

The movement which was inaugurated in the end of last year to provide some fitting memorial of the late Dr. John Young, professor of natural history in the University of Glasgow, has now reached such a point that the committee has been able to decide upon its form. The subscriptions received up to the present amount to £332 10*s.* and after full consideration it has been resolved that the memorial shall embrace the following objects: 1. A medallion in bronze by Mr. A. MacFarlane Shannan, A.R.S.A., with marble frame, to be fixed, with the approval of the university court, in a suitable place in the Hunterian Museum, together with two replicas, in bronze framed in oak, one to be placed in Queen Margaret College and the other to be presented to Mrs. Young. 2. A volume containing a selection of Dr. Young's papers and a biographical notice. After setting aside a sufficient number of copies for the use of Dr. Young's family and of the subscribers, and for certain libraries the balance to be available for sale. 3. The printing of the catalogue of Hunterian manuscripts. With regard to this last most desirable object, one or two gentlemen who desire to remain anonymous have intimated their intention of relieving the committee of all financial responsibility excepting only the cost of the work of revision and seeing through the press. The committee estimates that with additional subscriptions to the extent of about £50 or £60 it will be in a position to meet the whole cost of the first and second numbers and the work of supervising the printing of the third. It is particularly gratifying that it has been found possible to embrace in the memorial scheme the printing of the great catalogue of manuscripts to which Dr. Young had devoted years of labour and which he justly regarded with some pride as a much needed guide to the literary, antiquarian, and historic treasures, especially from mediæval times, numbered among the Hunterian manuscripts. This work will undoubtedly be a boon to the scholars of Europe and America, comparable to the similar catalogues of other famous manuscript libraries, and it will be in many respects a unique monument of Dr. Young's zeal as Keeper of the Hunterian Museum. The convener of the committee is Professor Bower; the honorary secretaries are Professor G. G. Henderson, Dr. Walter Colquhoun, and Dr. John G. Kerr; and the honorary treasurer is Mr. Archibald Craig, 156, St. Vincent-street, Glasgow.

*Aberdeen Royal Lunatic Asylum.*

The number of patients under treatment in the Asylum, Elmhill House, and Daviot branch in the middle of March was 968. A very favourable report was presented after an official inspection made by one of the Commissioners in Lunacy at the end of February. In this report the Daviot branch asylum was said to be in most respects an ideal home for the class of patients who occupy it; they are all

able-bodied working patients, and they are surrounded by all the comforts of a well-equipped modern asylum without the disadvantages of leading an institutional life. Approving reference is also made to the fact that Dr. William Reid, the medical superintendent, has introduced the use of an earthenware teapot supported on a metal frame sufficiently large to make tea for one dining-room table. The beverage thus prepared has the distinctive flavour of tea and is greatly superior to that which has been infused in large boilers as is commonly done.

*The late Mr. James Annand, M.R.C.S. Eng.*

Mr. James Annand died in his ninetieth year at Kirk-street, Old Meldrum, Aberdeenshire, on March 27th. The deceased gentleman at the time of his death was the oldest Member of the Royal College of Surgeons of England, having taken that qualification as far back as 1833.

March 31st.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Child Mortality in Dublin.*

AT a meeting of the South Dublin rural district council held on March 25th a report from Dr. E. C. Bigger, Local Government Board inspector, was read in which he stated that he found the death-rate amongst very young children given out to foster-mothers appallingly high. The average mortality of all children born in Ireland and not under one year old, as given by the Registrar-General for the ten years 1892–1901, was 10·45 per cent. of the total births, while the mortality amongst children sent out to nurse under one year old was 73·07 per cent. He recommended that except in very exceptional cases children should not be boarded out under six or eight months or even one year old. Dr. Bigger's report having been considered by the visiting committee an order was made to the effect that children under one year old should not be given out in future, and, further, that no child should be given out to nurse between Oct. 31st and April 1st in each year.

*Action for Defamation of Character by a Medical Man.*

At the Cork Assizes just concluded Mr. D. J. Murphy, medical officer of the Youghal Union Hospital, claimed £1000 damages for slander from a Mr. Nolan, a solicitor, residing in Youghal. In the course of the evidence it was stated that Mr. Nolan went to the workhouse and examined the porter's book, apparently with a view to find out whether Mr. Murphy attended regularly to his duties, and asked questions of one of the nuns nursing in the hospital, insinuating that Mr. Murphy was intoxicated when visiting patients there in the evenings and that thereby wrong medicines were liable to be given. Dr. Orpen, who had been doing temporary duty for Mr. Murphy, and the nun to whom Mr. Nolan had spoken were examined on behalf of Mr. Murphy. Whilst the last named was under cross-examination counsel for the defendant asked him whether he had not brought the action for the purpose of levying blackmail and the presiding judge, Mr. Justice Gibson, warmly disapproved of such a question being asked. In summing up the learned judge put categorical questions to the jury and told them that if they came to the conclusion that the defendant had slandered the plaintiff they ought to award substantial, if not exemplary, damages. The jury assessed damages at £225.

*The Royal Victoria Hospital, Belfast.*

The 110th annual meeting of the friends and subscribers of the Royal Victoria Hospital was held on March 30th and was of interest as being the last meeting likely to be held in connexion with the old hospital. The Lord Mayor presided and from the report presented it appears that the total number of patients treated in the hospital during the year was 2160; in the convalescent home, 366; in the consumptive department, 43; and in the children's hospital, 119; the total number being 2688. There were in addition 25,918 extern patients. Financially there are an increase in subscriptions, a decrease in bequests, and an increase in nearly all the regular and living sources of income, making a net total of £697 6*s.* 1*d.* After due adjustment of investments the net revenue account stands at £9546 3*s.* 6*d.*, as against £9537 9*s.* 5*d.* during the previous year. The disbursements of all kinds were £11,858 15*s.* 6*d.*, against £11,589 5*s.* 2*d.* during 1901. The total expenditure works out over the 264 beds of the three hospitals as £44 18*s.* 5*d.* per bed.

*Visit of the King and Queen to Ireland.*

It is officially announced that Their Majesties the King and Queen are to visit Ireland in July or August and it is expected that one of their functions will be to open the new Royal Victoria Hospital which has been erected as a gift from the citizens of Belfast to commemorate the late Queen Victoria.

*Clendinning v. Byers.*

At both the Ulster Branch of the British Medical Association and the Ulster Medical Society meetings to be held tomorrow (Thursday) afternoon, motions will be proposed congratulating Professor Byers on the satisfactory result of the recent action brought against him in the law-courts, assuring him of the unanimous opinion of his professional brethren that the charges had no foundation in fact, and registering admiration for his courage as well as undiminished esteem and respect.

*Queen's College, Belfast.*

The first annual dinner of the amusements committee of the students' representative council of Queen's College, Belfast, was held on March 17th (St. Patrick's Day) in "Ye Olde Castle" Restaurant, Belfast. There was a large attendance, the chair being occupied by Serjeant Dodd, K.C.

*The Vaccination Question.*

At a meeting of the Belfast guardians held on March 17th a letter was read from the Belfast trades council to the Local Government Board asking the Board to refuse its sanction to the request of the Belfast board of guardians for permission to set aside a room in the workhouse for the purpose of clinical instruction to students. It appears that arrangements have been made to give clinical instruction in vaccination to the medical students and it is against this practice that the trades council protests on the extraordinary ground "that workhouse life is already sufficiently repulsive without the fear of torture in a clinical room being added in the case of those who have no option but to submit." The guardians wisely declined to indorse this absurd statement of the trades council.

*Down County Infirmary.*

The total income of this institution for the year 1902 was £1970 14*s.* 10*d.* and the expenditure was £1813 13*s.* 4*d.*, leaving a balance in hand of £157 1*s.* 6*d.* The average number of beds daily occupied was 32 and the average cost of each patient was 2*s.* 6¼*d.* per day. The average annual cost of each bed occupied was £52 8*s.* 6¼*d.* The number of patients admitted during the year was 442, which with 39 remaining in hospital on Jan. 1st, 1902, make a total of 481 who were treated in 1902. In each hospital a ward has been set apart for the treatment of consumption and an x-ray installation has been fitted up and a special room assigned for the examination and treatment of cases by its aid. The infirmary has been recognised by the Local Government Board as an institution from which it will accept certificates from nurses as having received a sufficient medical and surgical training.

*Newry Fever and General Hospital.*

At the annual meeting of the subscribers to this hospital held on March 20th it was reported that the work of the hospital had been successfully carried on during the year. The county council of Down has approved of the proposal of the committee to borrow £1500 for the carrying out of improvements and alterations in the hospital.

*Ulster Medical Society,*

The seventh annual meeting of the Ulster Medical Society was held in the Anatomical Department of Queen's College, Belfast, on March 19th, Dr. John Campbell, the President, being in the chair. Professor J. Symington read a paper on the Surface Relations of the Deep Parts of the Brain, with a lantern demonstration. Professor T. Sinclair described a case of Cystic Tumour of the Kidney, with a pathological demonstration. Dr. T. Houston read a paper on the Conditions that simulate Pernicious Anæmia. Several specimens were also shown.

*County Antrim Infirmary.*

From the annual report of this hospital for the year ending Oct. 31st, 1902, it appears there were 322 intern and 471 extern cases, which is an increase on the previous year. From the bazaar held in last May a sum of £1056 was

obtained. The Local Government Board has placed the County Antrim Infirmary on its list of hospitals the training of which gives the status of "qualified nurses" for union hospitals in Ireland.

April 1st.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*The Acoustics of the Great Hall of the Academy of Medicine.*

AT a sitting *in camerâ* of the Academy of Medicine which was held on March 17th, M. Javal read a report on the acoustics of the great hall of the Academy of Medicine. The report had been drawn up by the section of Physics and Chemistry. He mentioned in his report that the commission which had been appointed to consider the matter came at once to a unanimous conclusion. The commission has formulated various propositions for diminishing the excessive echo and recommends that those should first be carried out which will entail but little expense. It recommends that the speaker's platform should be placed on the right side of the hall. It was so placed on the opening day and everyone present was able to hear with perfect distinctness the report which was read by the secretary from the platform when in this position. The commission also recommends that the bottom of the hall should be hung with drapery for the time being, that the floor should be covered with a thick carpet, and that underneath the sky-light cotton threads which would hardly be seen should be stretched. In this way it is probable that the constant echoes of sounds produced in the hall would be much lessened. At present the sound waves are reflected at varying angles from the floor to the sky-light and to the walls and back again and vibrations are set up in the thick glass of the sky-light and in the xylolith which covers the flooring. The commission also recommends that the lamps hanging from the ceiling should be removed, as those at the desks give quite light enough. The panes of the sky-light should be of very thin glass. Finally, the commission recommends that the four seats at present occupying the upper part of the central gangway should be removed as they render exit difficult and are thus the cause of noise; moreover, the small rooms on the ground floor should be shut off by curtains.

*Oxygenated Water.*

At the meeting of the Academy of Medicine held on the same day M. Lucas-Championnière laid before the meeting some researches by M. Maget and M. Planté on the Use of Oxygenated Water employed as a Spray for the Disinfection of Tortuous Cavities. It was thought that the heating and the nebulisation of the solution would cause it to lose most of its oxygen and, consequently, most of its disinfective power; as a matter of fact, the spray of oxygenated water contains only a portion of the oxygen contained in the original solution. M. Maget and M. Planté sought by experiment to discover how much oxygen was lost by distillation and they found that in oxygenated waters (solution of hydrogen peroxide) containing from nine to 11 volumes of oxygen the distillate contained from 0·20 to four volumes of oxygen. The average quantity found in the distillate varied between one and two volumes. Although from these results it may be estimated that the quantity of oxygen in the spray would be but small yet there is enough to give it a real therapeutic value. M. Lucas-Championnière performed some control experiments and found that his results on the whole were comparable to those of M. Maget and M. Planté. As a rule though, he obtained smaller quantities of oxygen in his distillate than they did. M. Lucas-Championnière considers that the net result of all the experiments is to show that solutions of hydrogen peroxide have a real therapeutic value, even when used as spray.

*The Treatment of Lead Colic by Electric Rectal Injections.*

At the meeting of the Hospitals Medical Society held on March 20th M. Galliard read a note upon the above-mentioned subject. He had had a patient under his care in whom it was doubtful whether the diagnosis should be lead colic or appendicitis. The patient had had no motion of the bowels for five days and for 36 hours had not even passed any flatus, so M. Galliard determined to try an electric rectal injection. The success of this treatment was very rapid and so M. Galliard determined to try it on three other patients who were undoubtedly suffering from lead colic. In all three the treatment acted well, the pains ceased, and the bowels rapidly regained their power after one or more electric injections. M. Galliard considers that this method of treatment is preferable to the purgatives which are generally used, for these latter are, as a rule, not well borne and in addition are very prone to irritate the intestinal mucous membrane. M. Moutard-Martin, in his speech on the matter, said that in his opinion if these electric injections could be employed without danger in cases of lead poisoning they must, on the other hand, be forbidden in cases where there was reason to suspect the existence of appendicitis.

*The Operative Treatment of Irreducible Dislocations of the Elbow joint.*

At the meeting of the Surgical Society held on March 25th M. Picqué, speaking on the operative treatment of irreducible dislocations of the elbow-joint, said that he had always been an advocate for resection as against simple incision (*arthrotomie*), of which the results were generally bad. M. Picqué always uses a median posterior incision which divides the triceps and which necessitates freeing that muscle at its insertion into the olecranon. He had never found any inconvenience result with regard to the future capability for use of the limb. It is true, however, that operating with this incision presents more difficulty than when other incisions are used, for when it is used it is by no means easy to free the lower end of the humerus from the tough fibrous adhesions which surround it. With regard to his latter point, M. Picqué thinks that very possibly operation by lateral incisions offers some advantages.

*Obituary.*

French science has suffered a severe loss by the death, which occurred recently, of Dr. Georges Bouilly, surgeon to the Cochin Hospital. He was 54 years of age and succumbed after a long and painful illness. He was one of the most skilled gynæcologists of the day, and although he was not spared to publish the great treatise on gynæcology which he had in preparation, yet he had written much in the various reviews on particular points of his specialty.

March 31st.

## BERLIN.

(FROM OUR OWN CORRESPONDENT.)

*The Medical Profession and the Sick Clubs.*

THE Deutscher Aerztevereinsbund, or German Medical Practitioners' Association, held an extraordinary meeting in Berlin on March 7th, Professor Löbker of Bochum being in the chair. The meeting was attended by 347 delegates from every part of Germany, representing about 19,000 medical men. It was convened principally for the purpose of protesting (1) against the new Bill relative to the insurance of workmen; and (2) against the habitual indifference displayed by the Government towards the wishes of the medical profession. Professor Löbker in introducing the subject said that although legislative measures relative to sick clubs and to the insurance of workmen against accidents involved questions possessing an obvious interest for medical practitioners the Government had taken no steps whatever to ascertain their views as to the manner in which they might be affected by the various enactments and seeing themselves thus ignored in matters which deeply concerned them it was desirable that they should consider what course was requisite for resisting encroachment and protecting their interests. Their patience was rapidly becoming exhausted and there was every probability that without their coöperation the scheme for the insurance of workmen would fail. In the discussion the "free-choice system" in club practice was generally recommended as supplying the relatively best protection against the high handedness of the clubs and in conclusion a resolution to the following effect was unanimously adopted:—

That this meeting deeply regrets that the recent Bill relative to sick clubs continues to give no effect to the unanimously expressed opinions of the German medical profession and this notwithstanding the fact that the Government has been informed of cases of hardship resulting from previous legislation on similar lines. That if the Government and Parliament persist in ignoring the opinions of the medical profession the latter will take measures to protect its interests whenever they may be interfered with by the clubs.

The meeting was evidently disposed to uphold the just rights of medical practitioners. The success of the strike of medical men at Gera (to which allusion was made in

THE LANCET of Feb. 21st, p. 558) showed what the profession could accomplish, and if unity can only be secured there may be little difficulty in dealing with the clubs. The Leipziger Verband, which rendered valuable assistance at Gera, is now in possession of considerable funds and more strikes of medical men will not improbably be heard of before long.

*The Nordenkötter Trial.*

Some remarkable disclosures were made at a trial which took place recently in Berlin, the central figure being a man who had been apprenticed to a pharmaceutical chemist but did not follow up the profession. After various unsuccessful endeavours to make a living he eventually commenced the practice of medicine and very soon was in receipt of 170,000 marks (£8500) a year, an income which in Germany falls to the lot of only a very few medical men of exceptional eminence. The quondam pharmaceutical apprentice who, of course, had no medical qualification whatever, carried on his lucrative practice entirely by correspondence, and in his advertisements, which appeared in a great number of newspapers published in all parts of Germany, he undertook to cure almost every kind of illness. Patients were invited to communicate with him, sending a description of their illness, together with replies to a series of questions, and after payment of heavy fees they received in return bottles of medicine, the composition of which was said to be a secret known only to the man Nordenkötter. Unqualified practice not being of itself an offence under the German law the man might have continued to deceive the credulous for many years if he had not been imprudent enough to come into conflict with some of his patients who charged him with having obtained payment for medicines which they had not received. The trial was entertaining in some respects because of the disclosures that were made relative to the system by means of which this impostor succeeded in extracting so much money from his dupes. His business was proved to be on a very extensive scale. Hundreds of letters from patients were received every day and were answered by clerks who had no medical knowledge whatever. Sufferers from venereal disease who were ashamed to consult a medical man formed a considerable proportion of the patients and were supplied with medicine containing mercury in large doses. As the business grew the man took into his employment three qualified medical practitioners to whom he paid 100 marks (£5) a month and against whom proceedings were taken in like manner as against their principal, but two of them left Germany before the trial. The third one, however, appeared and put forward the defence that in his judgment it was possible to carry out a system of rational treatment if the patients described their symptoms correctly in a letter; he also expressed a confident belief that he had not committed any offence, but on both these points the opinions of the medical experts were directly at variance with those of the accused. Another feature of the trial was the questionable position of some licensed pharmaceutical chemists who attended as witnesses, and in the course of their evidence, which was given on oath, they had to admit that poisonous drugs such as morphine and digitalis had been supplied by them to the unqualified practitioner without the prescription of a medical man. They will no doubt in their turn be prosecuted also. One of the witnesses caused much amusement and surprise in court by his description of the manner in which the medicines were prepared and dispensed: it was stated that the stock mixtures were made wholesale in a bath which in the intervals between these pharmaceutical operations was used by the man's wife for bathing in. It was a singular fact that many of the patients who were called as witnesses asserted confidently that their ailments had been cured by the treatment, whereas the medical experts were of opinion that their symptoms did not present any evidence of the alleged improvement. Unfortunately no penalty could be inflicted on the principal culprit who had been liberated on bail and who took advantage of the opportunity to make his escape from Germany, but his qualified medical assistant, less fortunate, was sentenced to six months' imprisonment. One result of the trial is that the movement in opposition to medical practice by unqualified persons has received a great impetus and that a society for the abatement of the abuses connected with quackery is in course of formation.

*Bovine Tuberculosis in the Human Subject.*

Dr. Troje of Brunswick has published in the *Deutsche Medicinische Wochenschrift* a case in which the human skin became infected with perlsucht and the subsequent history of the patient presented features of unusual interest. In an address delivered before the International Conference on Tuberculosis held in Berlin in October, 1902,[1] Professor Robert Koch maintained that butchers and other persons working among tuberculous cattle or their carcasses were not exceptionally liable to phthisis or other internal manifestations of tuberculosis, although they might suffer from tuberculosis verrucosa cutis, a local affection of the skin which healed readily and had no tendency to spread to the lymphatic glands or to other organs. The evidence, however, of Dr Troje's case seems to be opposed to this view. The patient was a working butcher, aged 19 years, who in July, 1900, had occasion to remove the pleura from the carcass of a cow which had been declared by a veterinary surgeon to be tuberculous, and in doing this the skin of his left forearm was slightly lacerated by a sharp edge of the sternum which was at the time covered with pus from a tuberculous abscess. The wound, which was immediately washed with carbolic lotion, healed very soon under an antiseptic dressing but six weeks afterwards the place became inflamed and two pustules which subsequently ulcerated showed themselves in the cicatrix; the axillary glands at the same time became swollen. Under iodoform dressings the ulcers healed very slowly, but lupus appeared in the neighbourhood of the cicatrix, so that on Nov. 22nd the patient was admitted into the Brunswick Hospital to be operated on. The diseased skin was removed together with a gland in proximity to the elbow and the denuded area was covered by transplantation of skin according to Thiersch's method. Microscopical examination of the skin proved that the disease was tuberculosis. The man remained well for a year, but in June, 1902, he again consulted Dr. Troje. He had then some nodules of lupus in the cicatrix and a considerable amount of pus between the muscles of the forearm together with swelling of the axillary glands. The diseased skin was again removed and the abscess after evacuation was filled with iodoform gauze. In September after the operation wound had healed all the axillary and infraclavicular glands were swollen and had to be removed; on microscopical examination they were found to be tuberculous. The case obviously shows that inoculation with perlsucht may lead to lupus and the subcutaneous formation of tuberculous pus. The hypotheses that the man either suffered from latent tuberculosis before his inoculation with perlsucht or that the wound became infected with tubercle bacilli of human origin are untenable, for he belonged to a healthy family free from any trace of tuberculosis and it is stated that he had had no communication whatever with any phthisical patient. Microscopically there was no perceptible difference between the condition of this patient's skin and an ordinary case of lupus.

March 30th.

## CANADA.

(FROM OUR OWN CORRESPONDENT.)

*Canadian Medical Association.*

THE thirty-sixth annual meeting of the Canadian Medical Association will be held this year in London, Ontario, on August 25th, 26th, and 27th, under the presidency of Dr. W. H. Moorhouse of that city. Dr. M. D. Mann of Buffalo, U.S.A., the surgeon who operated on the late President McKinley, will deliver the address in gynæcology, and Dr. Alexander Hugh Ferguson, a Canadian who has achieved success and distinction as a surgeon in Chicago, will deliver the address in surgery. Recently the president appointed Dr. R. W. Powell of Ottawa, a past president of the association, Dr. T. G. Roddick, M.P., and Dr. E. P. Lachapelle of Montreal, as a special committee with regard to the establishment of a Dominion health bureau. This committee has waited on the Premier and discussed the matter with him and Sir Wilfrid Laurier has promised it due consideration. Two well-known members of the association will attend the International Medical Congress at Madrid—viz., Dr. Lapthorn Smith of Montreal and Dr. C. F. Martin of the same city. Dr. Martin has been specially delegated to the congress from the association; he also carries with him the credentials of the American Pediatric Society.

[1] THE LANCET, Nov. 8th (p. 1277) and Dec. 13th, 1902 (p. 1661).

*Toronto as a Medical Centre.*

The announcement was made a few days ago that for some time past a joint committee, representing on the one hand Trinity Medical College and on the other Trinity University, had been quietly working to perfect arrangements whereby Trinity Medical College would cease to be a private corporation and become the medical department of Trinity University. The chairman of this joint committee is a prominent and successful Toronto financier; and from this fact alone the success of the scheme is assured. A fine site has been secured adjacent to the present medical building, which also adjoins the Toronto General Hospital, and the erection of new buildings and laboratories will be commenced at an early date, which when finished will not be excelled by those of any other medical college in America. In view, also, of the fact that the new medical building of the Faculty of Medicine of Toronto University is rapidly approaching completion, and that it is a very fine and complete structure erected on the "unit system," it would appear that Toronto will be in the foremost rank as regards medical facilities for instruction in the science and art of medicine, and second to none on the continent. Already the medical department of the University of Toronto can boast the largest roll of students of any medical teaching body in the Dominion, surpassing now even the famous McGill University which so long held this proud distinction.

*The Indians of the Dominion of Canada.*

According to the annual report of the Department of Indian Affairs, recently issued, the total Indian population has increased from 99,521 in 1901 to 108,112 in 1902. During 1902 small-pox continued to hover in the neighbourhood of many of the Reserves, and together with tuberculosis contributed most to swell the mortality returns. There was also a somewhat heavy mortality amongst the Indian children owing to the prevalence of a very malignant form of measles. There were during the year 2500 births and 2349 deaths, or a net gain of 151 as compared with 239 for the preceding year. The increase in population was due to accessions from Indians residing beyond treaty limits.

*Prevention and Cure of Tuberculosis in Montreal.*

The Montreal League for the Prevention of Tuberculosis has been organised during the past month and definite plans have been arranged for carrying out its aims. The Hon. Senator Drummond is the president, Dr. A. J. Richer is the permanent honorary secretary, and Dr. T. G. Roddick, M.P., is the chairman of the executive committee. Through the medium of the two latter gentlemen the league is seeking affiliation with the central organisation at Ottawa which was organised a few years ago by Lord Minto. Many of the prominent physicians of Montreal, such as Professor Adami, Dr. James Stewart, and Dr. Blackader, have identified themselves with the league. The aims of the association in brief will be to increase the knowledge of what tuberculosis is, what are its dangers and how these may be combated, and to afford assistance to those suffering from the disease. From time to time popular lectures will be given on the subject to both the French and the English populations; and the local health department as well as the provincial board of health will coöperate with the league in forwarding its aims.

*Ontario Board of Health.*

At the regular quarterly meeting of the Ontario Board of Health which was held in Toronto a short time ago the secretary, Dr. P. H. Bryce, reported that during the last six months of 1902 small-pox and scarlet fever had assumed a more malignant form than for years past. This was seen from the figures of the report. Of small-pox the statistics showed that in 1902 there had been 2500 cases in the province with ten deaths, and of scarlet fever 3119 cases with 266 deaths. In January of the present year small-pox had existed in 42 centres, and there had been 196 cases with ten deaths, as compared with 650 cases and one death in January, 1901. In Toronto during the last six months of 1902 there had been 701 cases of scarlet fever with 88 deaths. From this disease the death-rate had been 9 per cent. in the cities generally and 12·5 per cent. in Toronto. In January of the present year there had been in Toronto 106 cases and 21 deaths—a much higher percentage. In view of these facts the board decided to inaugurate stricter regulations as regards isolation in scarlet fever cases, and to recommend to the Legislature a stricter law in regard to vaccination.

*The Death-rate of Montreal in 1902.*

There died in Montreal during the year 1902 6271 persons, as compared with 6915 for 1901, a decrease of nearly 700. The cause of this is put down to the unusually cool summer of 1902 which affected to a great degree the infant mortality which is a very heavy item in that city during the hot summer months. By months the deaths were as follows: January, 481; February, 426; March, 534; April, 583; May, 547; June, 466; July, 735; August, 587; September, 440; October, 412; November, 484; and December, 576. The principal causes of death were as follows: small-pox, 10; measles, 76; scarlet fever, 64; diphtheria, 57; croup, 19; whooping cough, 28; influenza, 26; typhoid fever, 86; diarrhœa, 347; cholera infantum, 105; consumption, 664; and pneumonia, 544. From statistics gathered by the Montreal health department from 100 American cities Canada has two cities which have the highest and lowest death-rates—viz., Three Rivers, Quebec, and Hamilton, Ontario.

March 15th.

## NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

*Child Labour Bills for New York State.*

SENATE Bills and Assembly Bills have been recently introduced in the Legislature of New York State to restrict the employment of child labour. Their most important provisions are the following:—1. In order to secure a certificate allowing employment in factories and mercantile establishments the parent of a child must file with the Board of Health incontrovertible evidence that such child is actually 14 years of age or upwards. 2. The existing laws prohibiting the employment of children under 14 years of age in mercantile establishments and regulating the hours of employment of such children between the ages of 14 and 16 years are extended to cover children employed in or in connexion with telegraph, messenger, delivery, or other offices, and hotels, restaurants, and places of public amusement. 3. The provision in the existing law is repealed which allows vacation work in factories for children from 14 to 16 years of age who have not had the full schooling required for securing employment throughout the entire year, and the corresponding provision is repealed which allows vacation work for children from 12 to 16 years of age in mercantile and other establishments named in Section 2. This latter repeal, however, applies only to cities of the first and second class. 4. The employment of children between 14 and 16 years of age for more than nine hours in any one day is prohibited in factories, mercantile, and other establishments named in Section 2. The existing laws place a ten-hour limit but add as an exception that such children may be employed for more than ten hours in any one day if this is done in order to make a shorter work day of the last day of the week—an exception which makes the laws almost impossible of enforcement. 5. No child under ten years of age shall work as a newsboy, boot black, or street pedlar in cities of the first class and no child from ten to 14 years of age shall so work later than 9 o'clock in the evening.

*Death of Dr. Theodore Gaillard Thomas.*

Dr. Gaillard Thomas, one of the most distinguished of the New York physicians of 30 years ago, died suddenly from heart disease on Feb. 28th. Dr. Thomas was an obstetrician of world-wide fame and occupied in succession the chairs of Obstetrics and Gynæcology at the College of Physicians and Surgeons of New York. He published in 1868 a work on the "Diseases of Women" which had a very large circulation here and abroad, going through seven editions in America and being translated into five languages. Dr. Thomas established for himself a great reputation as an operator and was, perhaps, the best American lecturer and clinical teacher of his day. The deceased physician was born on Edisto Island, South Carolina, on Nov. 21st, 1832.

*Bellevue and the City Hospitals of New York.*

The charges recently brought against certain of the nurses of Bellevue Hospital that they had maltreated a patient in its alcoholic ward, which have been made the subject of an inquiry by the district attorney, have been dismissed at his request. The district attorney says that the charges were unfounded and that the patient had suffered no bodily injury at the hands of the nurses. The Board of Estimate

and Apportionment of New York has appropriated the sum of $3,000,000 (£600,000) to be expended in constructing a new Bellevue Hospital and a sum of $500,000 (£100,000) has also been appropriated for new buildings for Fordham Hospital. Both of these hospitals are city charitable institutions. It seems that New York will at last have public charity hospitals in keeping with her wealth and size. The management of Bellevue Hospital and the allied city hospitals is said to have much improved under the new *régime*.

*New York State Nurses Bill.*

An amendment to the Public Health Law of New York State is now before its Legislature. The new Bill provides for the appointment of a board of examiners by the regents of the University of the State of New York who shall test the fitness of candidates to register as nurses. A candidate in order to be eligible for examination must be over the age of 21 years, of good moral character, and must hold a diploma from a training school for nurses connected with a hospital giving a course of at least two years. Eligible candidates after having passed the examination will be granted a certificate by the regents which will authorise them to practise as, and to style themselves, registered nurses, but no other person may assume this title. Upon recommendation of the board of examiners the regents of the State of New York may in their discretion waive the examination of any persons possessing the afore-mentioned qualifications who shall have graduated before, or who are in training at the time of, the passage of this Bill and who shall apply in writing for such certificate within three years after the passage of this Bill. It is hoped that this Bill, if passed, will put an end to many of the abuses which now exist in New York State with regard to so-called trained nurses.

March 24th.

# Obituary.

## THOMAS JOHN MACLAGAN, M.D. EDIN., M.R.C.P. LOND.

IN the last issue of THE LANCET we recorded the death of Dr. Thomas John Maclagan, which took place on March 20th at his residence, 9, Cadogan-place, S.W. Dr. Maclagan received his medical education at the University of Edinburgh where he graduated M.D. in 1860, but he afterwards studied at Paris, Munich, and Vienna, and after some time spent in Dundee finally settled down to practise in London. He was physician-in-ordinary to their Royal Highnesses the Prince and Princess Christian of Schleswig-Holstein and was also for some time examiner in medicine at the University of Aberdeen. He is best known to the medical profession by his work on rheumatism and as the introducer, or rather renewer, of salicin in the treatment of that disease. The use of this drug he described in THE LANCET of March 4th (p. 342) and 11th (p. 383), 1876. In view of the most modern theories as to the cause of rheumatism it is interesting to note that Dr. Maclagan in 1876 wrote as follows: "Rheumatic fever is nowadays generally regarded as being produced by some cause or agency which is generated within the body. My own investigations into its pathology have led me to reject this view and to adopt the old 'miasmatic' view of its mode of origin, according to which the cause which gives rise to the disease is introduced into the system from without." Arguing from this idea and from the idea that as the cinchonaceæ grew most plentifully in regions where malaria prevailed so also possibly some plant which grew plentifully in regions where the "rheumatic miasm seemed most to prevail" would prove effective, he was led to try the salicaceæ. Decoction of willow bark had, of course, been known as a "cure" for rheumatism for many years previous to 1876 and the use of salicin is nowadays almost superseded by the salicylates, but still Dr. Maclagan would seem to have been the first to draw the attention of the medical profession to the use of salicin in modern days. His views as set forth in the paper from which we have quoted were afterwards expanded in a book entitled "Rheumatism, its Nature, Pathology, and successful Treatment." Dr. Maclagan has left a widow, three sons, and a daughter. His body was buried on March 24th at Woking, the first part of the burial service being said at St. Paul's, Knightsbridge.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Crolas, professor of pharmacology in the Medical Faculty of Lyons.—Dr. Bonamy, chief medical officer of the Nantes hospitals.—Dr. Juán Giné y Partagas, professor of external pathology in Barcelona, and one of the most eminent surgeons in Spain.—Dr. Raingeard, surgeon to the Nantes hospitals.—Dr. F. Cramer of Wiesbaden, formerly assistant to Professor von Langenbeck.—Dr. Julius Victor Carus, professor of zoology in Leipsic, in his eightieth year. He was for a short time some 50 years ago curator of the Comparative Anatomy Museum, Oxford.—Dr. T. G. Thomas, formerly professor of gynæcology and obstetrics in the New York College of Physicians and Surgeons.—Dr. M. Crisafulli, professor of clinical medicine in the Messina Medical School.—Dr. Bouilly, surgeon to the Paris hospitals.—Dr. Fritz Stockmann of Königsberg, author of many papers on renal diseases.—Dr. Walther Ruschaupt, assistant in the Breslau Pharmacological Institute.

# Medical News.

UNIVERSITY OF ABERDEEN.—The following candidates were successful in the examinations indicated:—

I. (*a*) *First Professional Examination.*—Henry Begg, William Begg, Francis J. Browne, James M'K. Clark, George Cooper, James Donaldson, Robert J. Duthie, Herbert W. Gisshan, Stephen Goodbrand, Alfred P. Hall, Leighton H. Hay, Dalziel B. M'Grigor, James R. M'Kenzie, Douglas J. Marr, John H. Moir, Alexander Noble, A. N. E Rodgers, David M'D. Roger, Henry Smit, Frank P. Sturm, Robert Watson, and William A. Watson.

(*b*) *First Part of the First Professional Examination.*—Thomas Clapperton, Andrew L. E. F. Coleman, Thomas Donaldson, Theodore G. Gray, George H. C. Lumsden, Robert W. Macpherson, Angus Macrae, George Mitchell, John J. A. Neil, Robert Ross, and Ernest Walker.

II. (*a*) *Second Professional Examination.*—Mary R. Bisset, *Robert Brown, William Campbell, Alexander Dawson, Hubert K. W. H. Dornhorst, Robert R. Duncan, William G. Gordon, Neil Kennedy, Alexander W. Laing, William Low, James B. Macdiarmid, Roderick Mackay, James Mackenzie, Kenneth Mackinnon, George Milne, Alexander Mitchell, Harry R. Neilson, Alexander D. Pringle, John Proctor, *William E. Reid, James Silver, James A. B. Sim, *Robert H. Spittal, John Herbert Stephen, Isaac F. B. de Villiers, *Frederick H. Welsh, and Lisette A. M. Wilson.

(*b*) *First Part of the Second Professional Examination.*—James Adams, Alexander Brown, Charles B. Gerrard, James M'Intosh, John A. Milne, Paul B. Roth, John Sangster, and Robert N. Thomson.

III. (*a*) *Third Professional Examination.*—Catherine E. Anderson, Francis Anderson, John Anderson, William Beedie, William R. Catto, Alexander G. Craib, †James Clark, Francis W. Davidson, Alexander Duguid, Alexander Flett, James S. Gray, George Hall, Alexander Hendry, John Hunter, Alexander Hutchison, Thomas C. Innes, Herbert M. Jamieson, John Jenkins, Francis Hernaman Johnson, *Frederick L. Keith, William W. J. Lawson, Donald Mackay, Malcolm Macleod, Charles G. MacMahon, Michael B. H. Ritchie, James Robertson, *Alexander N. Ross, *Bertie R. G. Russell, Herbert W. B. Ruxton, Fife Slater, *Cyril M. Smith, John M. Taylor, and *William Wood.

(*b*) *First Part of the Third Professional Examination.*—George Adam, Walker A. Elwood, and James H. Thomson.

IV. *Fourth Professional Examination:* (*a*) *Degree of M.B., Ch.B.* (New Regulations).—William Anderson (Kintore), Frank W. Begg, Hugh S. Brander, Arthur J. Grant, Charles W. F. Gray, John J. Harris, George Hendry, George G. Macdonald, James F. M'Intosh, John A. M'Kenzie, *Hugh Maclean, Gordon W. Maconochie, William Mearns, Kenneth S. Melvin, George Mitchell, Andrew B. Morris, William F. Munro, Adam S. Niven, Alastair G. Peter, William R. Pirie, James H. Shepherd, Frederick K. Smith, William Stewart, George Stoddart, Cornelius A. Suvoong, and William A. Watson.

(*b*) *Degree of M.B., C.M.* (Old Regulations).—John Fraser and Julius E. Perera.

* Passed with distinction. † Passed with much distinction.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates were successful:—

*Diploma in Public Health, Part I.*—George Raymond, Thomas G. Moorhead, Kingsmill W. Jones, Albert L. Hoops, Walter C. Oram, John N. Laird, Robert G. H. Tate, and Thomas F. Telford.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the Primary part of the Fellowship examination:—

W. W. Boyce, R. A. Brown, R. Bury, J. S. Dunne, G. H. Gallagher, and J. M. Hayes.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Bernhard Heine has been recognised as *privat-docent* of Otology and Dr. Paul Schuster as *privat-docent* of Diseases

of the Nervous System.—*Bologna:* Dr. Lodovico Beccari has been recognised as *privat-docent* of Physiology and Dr. Bindo de Vecchi as *privat-docent* of Pathological Anatomy.—*Breslau:* Dr. Strümpell of Erlangen has been appointed to succeed Professor Kast.—*Budapest:* Dr. Temesvary has been recognised as *privat-docent* of Gynæcology and Dr. Detre as *privat-docent* of Bacteriology. Dr. Barsony has been appointed Professor of Gynæcology in succession to the late Dr. Kezmarszky.—*Königsberg:* Dr. Georg Puppe of Berlin has been appointed Extraordinary Professor of Forensic Medicine.—*Leipsic:* Dr. Eigenbrodt has resigned his position as Extraordinary Professor of Surgery.—*Munich:* Dr. August Luxenburger has been recognised as *privat-docent* of Surgery.—*Naples:* Dr. Teodorico Rosati of Rome has been recognised as *privat-docent* of Laryngology and Otology.

ROYAL INSTITUTION.—The following are among the lecture arrangements at the Royal Institution after Easter:—Dr. Allan Macfadyen, three lectures on the Blood and some of its Problems; Professor G. H. Darwin, two lectures on the Astronomical Influence of the Tides (the Tyndall lectures); Professor E. J. Garwood, two lectures on the Work of Ice as a Geological Agent; Professor Dewar, three lectures on Hydrogen—Gaseous, Liquid, and Solid; Professor S. H. Vines, two lectures on Proteid Digestion in Plants; and Professor Silvanus P. Thompson, two lectures on the De Magnete and its Author, (1) the Book, and (2) the Man. The Friday evening meetings will be resumed on April 24th.

DONATIONS AND BEQUESTS.—Under the will of Mr. Henry Baker Hicks of Bristol, after the death of his widow, the following legacies are to be paid: to the Bristol Eye Hospital, £100; to the Bristol Dispensary, £150; and the Bristol Royal Infirmary and the Bristol General Hospital will each receive £1000.—The Pendlebury Hospital for Children, Manchester, the Manchester Hospital for Consumption and Diseases of the Throat and Chest, and the Northern Counties Hospital for Chronic and Incurable Diseases will each receive £500 under the will of Mr. F. Boden Benger of Knutsford.—Mr. J. McIntyre, M.D. St. And, has by his will bequeathed £1000 to the Royal Medical Benevolent College Pensioners' Fund and a like sum for a cottage hospital at Odiham, Hants.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Colston Wintle, L.R.C.P. Lond., M.R.C.S. Eng., on March 16th was presented with a timepiece at the first annual dinner of the Horfield and Bishopston (Bristol) Horticultural, Feather and Fur Association in recognition of his labours on behalf of the association and its exhibition.—The members of the Cockington (Torquay) Men's Branch of the St. John Ambulance Association have presented Mr. George Henry Cressey, L.R.C.P. Lond., M.R.C.S. Eng., with a surgical electric lamp as a mark of appreciation for his services as honorary lecturer.—Mr. W. Ffennell MacCarthy, M.D. Dub., who has recently resigned the office of surgeon to the Sir John Moore Lodge of Oddfellows (Worcester Branch) after 20 years' service, was on March 23rd presented with a framed illuminated testimonial by the members of the lodge.

ACTION TO RECOVER MEDICAL FEES.—At the Wolverhampton county court on March 27th Mr. Thomas Wolverson brought an action to recover £4 19s., being his fees for medical attendance on a family. On Nov. 28th, 1902, two of the children fell ill with scarlet fever and the parents were advised by both the plaintiff and his son, Mr. John A. Wolverson, to have them removed to the isolation hospital, but the recommendation was not followed. On Dec. 21st the defendant's wife fell ill and he thereupon called in Dr. Edwin Morton who came to the conclusion that the children and their mother suffered from diphtheria and not from scarlet fever. Mr. Wolverson was then informed that his services, which had been retained for the approaching confinement of the defendant's wife, would not now be required and payment of his account was refused on the ground of unskilful treatment. At the trial the question of diagnosis was not pressed, the defence now alleging that the plaintiff ought to have advised the family to quit the house as the drains were out of order. In the result the judge said that the plaintiff had advised the defendant to complain to the sanitary authorities about the drains. He came to the conclusion that the children were properly treated and he gave judgment in the plaintiff's favour for the amount claimed. The plaintiff's case was managed by the Medical Defence Union.

ROYAL DENTAL HOSPITAL.—The annual general meeting of governors was held at the hospital, Leicester-square, on March 31st, Lord Kinnaird being in the chair. The committee of management reported a very large increase in the number of patients during the past year, there being 15,244 more cases treated than in 1901 and a corresponding increase in the working expenses. The consent of the Charity Commissioners and of the Prudential Assurance Company, which holds a mortgage on the property, having been obtained, the "Duke's Head," a public-house on the premises, has been closed as a public house and the licence destroyed. The friends of the hospital must not let the charity be a loser by this step.

UNIVERSITY OF LONDON.—A meeting of the Faculty of Medicine was held at the University, South Kensington, on March 27th, Mr. Henry T. Butlin, the Dean of the Faculty, being in the chair. Dr. J. Rose Bradford and Dr. J. Kingston Fowler were unanimously re-elected as representatives of the Faculty upon the Senate. In thanking the Faculty for the renewed expression of its confidence, Dr. Fowler referred to the fact that the work of the Senate in reorganising the curriculum and scheme of examinations for degrees in medicine and surgery was practically completed and stated that the new regulations shortly to be issued would be found to contain most of the modifications recommended by the Faculty. He felt sure that the Faculty would be gratified by the announcement made at the last meeting of the Senate that their Royal Highnesses the Prince and Princess of Wales had signified their willingness to accept the honorary degrees of Doctor of Law and Doctor of Music respectively. The Dean presented a report showing that satisfactory progress had been made in the negotiations between the Senate and the Faculty with regard to the establishment of a university institute to provide common courses of instruction for internal students and others in the preliminary and intermediate subjects of medical education.

THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—The annual general meeting of the Medical Graduates' College and Polyclinic was held at the college, 22, Chenies-street, Gower-street, on March 31st. Sir William H. Broadbent, Bart., K.C.V.O., was in the chair, and among those present were Sir William Kynsey, C.M.G., Dr. Seymour Taylor, the honorary treasurer, and Captain A. E. Hayward Pinch, I.M.S., the medical superintendent. The report showed that the number of members and subscribers had increased from 825 in 1901 to 941 and an increase was noted in all departments of the college work. The chairman, in moving the adoption of the report, pointed out that every year brought something new which was worthy of the attention of practitioners. Blood examinations had now become matters of extreme importance, for examination of the blood told them much about clinical diseases. In all these matters great light had been thrown upon disease and great aid was obtained in treatment. The consultations carried on at the Polyclinic were interesting, but were a poor substitute for the kind of work that ought to be carried on. He had never ceased to hope that sooner or later they would have a properly equipped hospital where exhaustive investigations could be carried on and results obtained bearing directly on the diagnosis and treatment of disease. The West London Hospital was endeavouring to meet this kind of want and it had their sympathy in the work it was trying to carry out. Referring to the composite course of lectures in medicine and surgery he said that they seemed to him of great service, but his only fear about them was lest they should swamp the clinical teaching. Lectures, however good, were not the best kind of teaching unless they were associated with demonstrations affording objective teaching. Sir William Kynsey seconded the motion. Dr. Seymour Taylor, the honorary treasurer, said that the institution needed money and unless it was obtained they would have to close their doors. A proposal was then made that members should pay two guineas per annum instead of one as at present. The chairman said that he thought that if the subscription were raised the financial question would be solved. He did not think that there was any great risk of catastrophe. The report and balance sheets were adopted.

# Parliamentary Intelligence.

## HOUSE OF LORDS.

THURSDAY, MARCH 26TH.

*Physical Tests for Army Recruits.*

The Earl of HARDWICKE, Under-Secretary of State for War, in answer to a series of questions on this subject said that the present standard of height for recruits entering the infantry of the line was 5 feet 3 inches; it was the same in January, 1899. He could not give the average chest measurement of recruits during the past year, because a new system had been introduced. Under the old system no recruit was accepted, except as a special, whose minimum chest measurement was less than 33 inches. But in accordance with the report of a committee of military and civilian doctors another system was introduced on April 1 last year. The chest was measured first when fully expanded; secondly, when relaxed; and if there was a difference of not less than two inches between the two measurements the recruit was accepted, whereas if it were less than two inches he was not accepted. Since the introduction of this system no man had been accepted who did not comply with those conditions. In future it was intended to issue a return showing the average height, chest measurement, and the weight of every recruit on enlistment. Then after he had completed six months' service and gone through gymnastic training he would again be measured and if he had not, according to the requirements laid down by the committee, increased his physical development to the extent considered necessary he would not be allowed to remain in the army.

## HOUSE OF COMMONS.

WEDNESDAY, MARCH 25TH.

*The Royal Commission on Tuberculosis.*

Mr. LONG, in reply to Mr. FIELD, said he was informed that it was impossible to state definitely at present when the report of the Royal Commission on Tuberculosis would be issued.

THURSDAY, MARCH 26TH.

*The Sale of Poisons.*

Mr. JAMES O'CONNOR asked the Home Secretary whether he would consider the advisability of introducing a Bill for the purpose of increasing the restrictions upon the sale of poisons.—Mr. AKERS-DOUGLAS replied: The hon. Member will be aware that a departmental committee appointed by the Lord President recently reported upon various questions relating to the sale of poisons. That report is now under careful consideration. Some of the recommendations of the committee are in the direction indicated in the hon. Member's question.

*The Quality of Alcoholic Liquors.*

Mr. T. M. HEALY asked the Chancellor of the Exchequer if he would say what supervision, if any, the Government exercised in regard to the nature and quality of the whisky and other spirits consumed by the public; if he had any official reports showing that the increase of lunacy and crime in this country was largely due to bad drink now being sold as genuine malt whisky and brandy; whether he would cause inquiries to be made as to the laws in force in other countries for the protection of the public against the sale of deleterious blends and other objectionable alcoholic liquors; whether the Excise Department possessed a record of the materials used in distillation by every distillery in the three kingdoms; and, if so, whether he would grant a return showing the nature of those materials used by each distiller for the year 1902.—Mr. RITCHIE replied: The Government does not exercise any supervision as regards the nature and quality of the whisky and other spirits consumed by the public, the provisions of the Sale of Food and Drugs Act in this connexion being administered by the local authorities. I am not aware of any such reports as those to which the hon. and learned Member refers and I do not think that a return of the legislation in other countries would be likely to serve any useful purpose. The revenue authorities possess a record of materials used in distillation, and the totals are published annually in the statistical abstract. A return of the materials used by each individual distiller would be a very invidious one, and I cannot think it desirable.—Mr. HEALY: Does not the right hon. gentleman consider that the fact of such a return being invidious is the very reason why it ought to be published? Then the honest man would have a chance.—Mr. RITCHIE: I have no doubt that individual purchasers can easily protect themselves if they choose to go the right way about it.—Mr. HEALY asked the right hon. gentleman whether he had any official reports showing that guarantees and statements as to age affixed by blenders to whisky bottled in bond were often false or exaggerated, and, if so, whether he would explain why such marking of whisky was allowed under Government auspices where age was a vital point; why the Revenue Boards of Customs and Excise refused to guarantee officially the age of whisky bottled in bond which they knew to be correct but allowed incorrect descriptions to be used by blenders; whether he was aware that certificates of analysis from leading analysts to give colour to frauds were often placed on the bottles, also under Government supervision; and whether he would issue instructions to put an end to all these practices in Government warehouses?—Mr. RITCHIE replied: I am not aware of any such official reports as those to which the hon. and learned member refers. The question of exercising control over labels affixed to goods in bond is one which cannot possibly be adequately discussed within the limits of an answer to a question. The practice of the Revenue Boards is to limit themselves almost entirely to prohibiting the use of labels implying any Government guarantee of accuracy, and to preventing any gross misdescription of foreign spirits as British and *vice versâ*. I cannot undertake to alter this practice, for the reason (amongst others) that the moment spirits have been taken out of bond the control exercised by the boards must cease.—Mr. HEALY said that a predecessor of the right hon. gentleman some 12 or 15 years ago appointed a select committee to go into this subject and he asked whether the right hon. gentleman would now grant a departmental committee or a committee of the House to make some fresh inquiry into the new evils which had arisen.—The CHANCELLOR of the EXCHEQUER: I shall always be willing to consider representations that may be made with regard to inquiries into this or any other matter. If any further communication between the hon. and learned gentleman and myself should lead me to believe that some good could be accomplished I should be pleased to entertain his suggestion.

*The Military Hospital at Alton.*

Questions were addressed to the Secretary of State for War as to this hospital, built during the war with money subscribed by the public.—Mr. BRODRICK explained that there had been delay caused by negotiations as to the terms on which the hospital would be handed over, but the difficulties in this connexion had now been overcome and he assured the House that the building would be used as a permanent hospital.

*The Medical Service of the Navy.*

On the vote for the medical establishments and services of the navy Mr. KEARLEY suggested that instructions should be given in ambulance work to men of all classes in the navy and asked whether the Admiralty had taken any steps to secure a reserve of medical men for time of war.—Sir JOHN COLOMB supported the suggestion as to instruction in ambulance work.—Mr. ARNOLD FORSTER, Secretary to the Admiralty, said that it had been under consideration whether more instruction in ambulance work might not be given in the navy, and steps had been taken to increase the hospital staff and sick bed attendance in time of war by the employment of volunteers. The question of a reserve of doctors had not escaped the attention of the Admiralty. As a matter of fact, steps had already been taken to institute such a reserve and they had had a most gratifying response from the medical profession; a large number of medical men had already signified their willingness to undertake duty under the conditions laid down by the Admiralty.—Mr. GROVES raised the question of members of the Navy Medical Service being given opportunity from time to time for bringing themselves up-to-date with modern treatment.—Mr. ARNOLD FORSTER said that the Admiralty considered it very important that their medical officers should have this up-to-date training and in order that they might obtain it the Admiralty had received the sanction of the Treasury to make provision for not less than 50 medical officers each year to attend post-graduate courses of instruction at medical schools.

*Vaccination and Government Service.*

Mr. CORRIE GRANT asked the Secretary of State for War whether he was aware that clerks of works on the Royal Engineer civil staff had been ordered to be vaccinated on penalty of dismissal, and if so, would he state whether this order had been issued with his sanction.—Mr. BRODRICK replied: Nothing is known of any such specific cases. The general officer commanding the Home District issued orders about a year ago during the small-pox epidemic that such clerks were not to be taken on if they refused vaccination.

FRIDAY, MARCH 27TH.

*Vaccination Proceedings.*

Sir CHARLES M'LAREN asked the President of the Local Government Board if his attention had been called to representations of the Hinckley guardians as to the state of the law as to the control of vaccination officers; and whether he would take steps to prevent these officials engaging legal advisers without consultation with or the consent of the guardians.—Mr. LONG replied: My attention has been called to representations made by the guardians on the subject. As regards the last part of the question, I must point out that the duty of the vaccination officer to take proceedings in cases of default is quite independent of any directions from the guardians. In cases where the guardians are opposed to the enforcement of the Vaccination Acts it would obviously be impossible for the vaccination officer to carry out the duty referred to if he had to obtain the consent of the guardians to the legal assistance which was requisite for the purpose, and I am advised that it is a necessary incident of the statutory duty of the vaccination officer that he should have authority to engage legal assistance where this is required.

MONDAY, MARCH 30TH.

*Poor-law Administration in Ireland; Commission to be Appointed.*

Dr. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland if he would consent to the appointment of a Royal Commission to inquire into the grievances of the Irish Poor-law Medical Service and also into the question of the administration of the Poor-law, the condition of the workhouses, and the treatment and management of the poor in these institutions.—Mr. WYNDHAM said: The Government is about to appoint a commission to consider the general question of the amalgamation of unions and the amelioration of the condition of all classes of destitute poor in workhouses. The grievance of the Irish Poor-law medical officers, which can only be remedied at the ratepayers' expense, is another matter, and any amendment of the law on this subject would be highly contentious. I should, therefore, be sorry to see it brought within the scope of a commission through which it is hoped to insure a more economical administration of the Poor-law.

TUESDAY, MARCH 31ST.

*Sale of Adulterated Butter Bill.*

This Bill was read a second time and referred to the Grand Committee on Trade. In the course of the debate Mr. HANBURY, the Minister in charge of the Bill, undertook to consider whether, instead of saying that butter containing 20 per cent. of moisture should not be sold and that the presence of 16 per cent. should create a presumption in favour of adulteration, there should be inserted a standard of 18 per cent. applicable all round. He also undertook to consider whether it was desirable in the public interest to have milk-blended butter labeled as the Bill proposed as "adulterated" butter. On the whole, the Bill was well received by the House, although it is more than likely that it will be considerably altered either in the Grand Committee or when it comes back to the House for the report stage.

*The Volunteer Medical Service.*

Mr. REMNANT asked the First Lord of the Treasury if he would consider the advisability of including a volunteer medical officer among the members of the Royal Commission to be appointed to consider the Volunteer Service.—Mr. BALFOUR replied: I fear I cannot promise to include officers of the various departmental corps on the commission.

*Royal Army Medical Corps.*

Dr. THOMPSON asked the Secretary of State for War if he was aware

that the captains of the Royal Army Medical Corps now attending a professional course in London and residing at the temporary college in the Hotel Belgravia receive an allowance at the rate of 5s 6d., although lieutenants on probation receive an allowance at the rate of 9s., and if he would give directions to remove this difference.—Mr. BRODRICK replied: Lieutenants on probation receive allowances for servants, lodgings, and fuel and light, amounting to about 4s., and also draw mess allowance of 4s. Captains draw the former class of allowances, amounting to about 5s. The question of the grant of the 4s. mess allowance to them is under consideration.

WEDNESDAY, APRIL 1ST.

*Cremation and the Detection of Crime.*

Mr. JOHN ELLIS asked the Home Secretary whether his attention had been drawn to the case of one Severin Klosowski, who was convicted on March 19th of murder by poisoning, in connexion with whose trial two bodies had been exhumed after burial of some years, in respect of which grave suspicion attached to the prisoner of similar poisoning; and whether, having regard to such cases, he would take steps to secure that any rules and regulations issued under Section 7 of the Cremation Act, 1902, should provide against cremation being used to destroy evidence of crime.—Mr. AKERS-DOUGLAS replied: I have prepared regulations under Section 7 of the Cremation Act, 1902, based on the recommendations of a committee which I appointed to advise me on the subject. The report of that committee, which has been presented to Parliament, shows that the chief point to which they directed their attention was the necessity of providing, so far as possible, against cremation being used to destroy evidence of crime. It is, of course, impossible to have an absolute safeguard under any system, but I am confident that if the bodies to which the question refers had been presented for cremation under the proposed regulations, the inquiries to be made would have been much more searching than any required under the present system of certification before burial, and they might have led to the immediate detection of crime. The regulations will lie on the table for 40 days before coming into force

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BARCLAY, W. M., F.R.C.S. Eng., has been re-appointed Honorary Surgeon to the Bristol General Hospital.

BARON, B. J., M.B., C.M. Edin., has been appointed Honorary Consulting Physician to the Throat and Nose Department of the Bristol General Hospital.

CHAPMAN, WALTER, M.B., Ch.B., M.R.C.S., L.R.C.P., has been appointed Surgeon to the Birmingham Corporation Waterworks and Hospital at Elan Valley, Worcestershire.

CLARKE, J. M., M.D. Cantab, F.R.C.P. Lond., has been re-appointed Honorary Physician to the Bristol General Hospital.

COLAHAN, N. W., M.D., M.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory Act for the Galway District of the County of Galway.

CORBIN, A. G., M.B. Syd., has been appointed Medical Superintendent at Sydney Hospital, New South Wales.

DAWE, R., M.D. Lond., B.Sc., has been appointed Assistant Resident Medical Officer to the London Fever Hospital.

FAIRBAIRN, JOHN SHIELDS, M.B. Oxon., F.R.C.S. Eng., has been appointed Physician to the Out-patients' Department at the British Lying-in Hospital, Endell-street, W.C.

FIRTH, J. L., M.D., M.S. Lond., F.R.C.S. Eng., has been appointed Physician to the Throat and Nose Department of the Bristol General Hospital.

FOGGIN, GEORGE, B.A. Lond., L.R.C.P. & S. Edin., has been appointed Principal Medical Officer to the Newcastle-upon-Tyne School Board.

FREEMAN, J., M.R.C.S., L.R.C.P. Lond., has been re-appointed Anæsthetist to the Bristol General Hospital.

HENDERSON, ELEANOR R., M.B., Ch.B. Edin., has been appointed Surgeon to the Out-door Department, Leith Hospital.

HILL, H., M.D. Brux., has been appointed Assistant Anæsthetist to the Throat and Nose Department of the Bristol General Hospital.

MICHELL, JOHN CHARLES, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for Lynton (Devon) Urban District.

MORTON, C. A., M.R.C.S., L.R.C.P. Lond., has been re-appointed Honorary Surgeon to the Bristol General Hospital.

YEATES, W., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P. & S. Glasg., has been appointed Medical Officer to the Heworth District of the Gateshead Union.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum, and rooms and attendance.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon for six months. Salary at rate of £70 per annum.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, and attendance.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100, with board, residence, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon. Salary £80, with board, lodging, and washing.

CANCER HOSPITAL, Fulham, S.W.—House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

CARDIFF INFIRMARY.—Assistant House Surgeon for six months, renewable. Salary at rate of £75 per annum, with board, washing, and apartments.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.

EAST SUSSEX COUNTY ASYLUM, Hellingly.—Senior Assistant Medical Officer, unmarried. Salary £300 a year, with board, lodging, washing, and attendance.

ESSEX AND COLCHESTER HOSPITAL.—Honorary Physician.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician, also House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

GUY'S HOSPITAL DENTAL SCHOOL.—Travelling Scholarship. Value £100.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

KING'S COLLEGE, London.—Sambrook Medical Registrarship.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100, with board and lodging.

LEICESTER INFIRMARY.—Surgical Dresser for six months. Honorarium £10 10s., with board, apartments, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon, for six months. Salary £25, with board and lodging.

MARGARET-STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 26, Margaret-street, Cavendish-square, W.—Physician.

NORTHAMPTON ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London, W.—House Physician; also House Surgeon for six months. Salaries at rate of 50 guineas a year, with board and residence. Also Physician to the Skin Department.

ROYAL EYE HOSPITAL, Southwark, S.E.—House Surgeon for six months, renewable. Salary 50 guineas per annum, with board and residence.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—House Physician, also Casualty House Surgeon (males), for six months, board, &c., provided. Also Resident House Physician, also Resident House Surgeon (females), for six months, board, &c., provided.

ROYAL SEA-BATHING HOSPITAL, Margate.—Resident Surgeon, as Junior, for six months, as Senior for like period. Salary at the rate of £80 and £120 per annum respectively, with board and residence.

SCHOOL BOARD FOR LONDON (MEDICAL OFFICER'S DEPARTMENT).—Medical Officers (Men or Women) with ophthalmic experience.

ST. MARK'S HOSPITAL FOR FISTULA, &c., City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—House Surgeon for six months. Salary at rate of £100 a year, with board, lodging, and washing.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £100, increasing, with board and residence.

TOWER HAMLETS INFIRMARY, White Horse-street, Stepney, E.—Resident Medical Officer. Salary £150 per annum, with rooms, coals, gas, and attendance.

WAKEFIELD, CITY OF.—Medical Officer of Health. Salary £250 per annum.

WEST HAM UNION NEW INFIRMARY, Whipps-cross-road, Leytonstone, N.E.—Assistant Medical Officer. Salary £150 per annum, with residential allowance.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

WEST RIDING ASYLUM, Menston, near Leeds.—Resident Clinical Clerk. Board and residence.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

# Births, Marriages, and Deaths.

## BIRTHS.

HAUGHTON.—On March 23rd, at Falmouth, the wife of J. Welby Haughton L.R.C.P. Irel., L.R.C.S. Irel., of a daughter.

OWEN.—On March 26th, at The Limes, Kingston-on-Thames, the wife of John Griffith Owen, M.R.C.S., of a son.

SMITH.—On March 29th, at Selhurst-road, South Norwood, the wife of Walter H. M. Smith, M.R.C.S., L.R.C.P. Lond., of a son.

## MARRIAGES.

CORNER—HENDERSON.—At Dundee, on the 31st March, Edred Moss Corner, F.R.C.S., youngest son of Francis Corner, Esq., M.D. Lond., to Henrietta, second daughter of James Henderson, Esq., The Gows, Invergowrie, Forfarshire.

OLD—WRIGHT.—On Feb. 11th, at the parish church of St. Nicholas, Dereham, by the Rev. Canon Arnold, vicar, assisted by the Rev. G. H. Holley, George Greensill Old, M.B., Ch.M. Sydney, to Ethel Lorina, eldest daughter of Mr. and Mrs. J. C. Franklin Wright, Bank House, East Dereham, Norfolk.

## DEATHS.

BARLOW.—On March 27th, at Orlebar, St. Peter's, Kent, Robert Barlow, M.R.C.S., aged 64 years.

HUGO.—On March 29th, at New Brompton Kent, Edward Henry Hugo, L.R.C.P. Lond., M.R.C.S., L.S.A., in his 59th year.

HUNTER.—On March 28th, at Abercromby-place, Edinburgh, James Adam Hunter, M.D. Edin., F.R.C.S. Edin., in his 80th year.

*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## TO MEDICAL FREEMASONS.

WE are asked to publish the following appeal:—The executors of the late Lieutenant-Colonel S. J. Flood, R.A.M.C. (Dr. Richard Flood of Bundoran and Mr. Arthur Tuffield of 5, Brunswick place, Cambridge) earnestly appeal to all medical Freemasons, and especially to those connected with the Royal Army Medical Corps, to give their votes to Samuel Basil Flood, youngest son of the above-mentioned Lieutenant-Colonel Flood, at the April election to the Royal Masonic Institution for Boys, for although he obtained 3226 votes he was unsuccessful in October last. The late Lieutenant-Colonel Flood had seen much active service on the West Coast of Africa; he was a most ardent Freemason, having been connected with many lodges in this country and in India. He died at the early age of 42 years, leaving four young children very inadequately provided for. Votes will be gratefully received by Arthur Tuffield, 5, Brunswick-place, Cambridge.

LUKE writes: I do not know whether any steps have yet been taken to save the great wastage which there is in the medical votes for the Masonic charities. It is most desirable that some organisation should be initiated in this respect seeing that the profession always has been (*teste* Mr. R. F. Gould), is, and in the future will be to an infinitely greater extent (by reason of the establishment and popularity of medical lodges and especially of lodges founded in connexion with the great hospitals), a powerful factor in Freemasonry. I do not for a moment suggest that medical cases, simply because they are *medical* cases, should be given preference when any particular medical voter is personally interested in any particular case, but I do urge the creation of some organisation by means of which medical Freemasons who do not happen to be interested personally or through their friends in any candidate (and this must constantly happen) may know how best to dispose of their votes in relief of some distressed child of a brother practitioner and in the case of there being several medical candidates that they may be able to ascertain which case is in most pressing need of assistance. My immediate object, however, is to ask to be permitted to point out in the columns of THE LANCET that in the voting papers just issued occur the names of three medical candidates, namely, for the Royal Masonic Institution for Boys Samuel Basil Flood (with 3226 votes brought forward) and Cyril Patrick Hines (with 994 votes brought forward)—the name of the latter will be removed from the list of candidates if unsuccessful at this election under a law limiting the age of candidates to 11 years—and for the Royal Masonic Institution for Girls May Irene Mackay. I may add that I have ascertained that the names of the deceased fathers of these children were in the Medical Register of 1895.

## A PROPOSED BACTERIOLOGICAL LABORATORY FOR PLYMOUTH.

A MOVEMENT has been set on foot having for its object the establishment of a bacteriological laboratory for Plymouth. At a recent meeting of the Plymouth borough council a petition on the subject signed by a large number of the medical men of the district was presented asking the council to establish a "municipal laboratory in which certain prevalent and infectious diseases could be recognised by modern bacteriological methods of examination."

## WHY APPENDICITIS?

*To the Editors of* THE LANCET.

SIRS,—In reply to your correspondent's letter in THE LANCET of March 28th, p. 936, asking me why I called the case described by me in THE LANCET of March 21st, p. 797, one of appendicitis my reasons are as follows: (1) the fæcal smell of the pus, showing it to be connected with the bowel; and (2) the adhesions which had formed were in the vicinity of the appendix. Elsewhere there were flakes of lymph but no adhesions, showing that except close to the appendix the peritonitis had not existed long enough for them to be formed.

I am, Sirs, yours faithfully,

Royal Infirmary, Windsor, March 30th, 1903. F. E. WOOD.

## DOES SPITTING ON THE GROUND SPREAD TUBERCULOSIS?

*To the Editors of* THE LANCET.

SIRS,—We see notices up and down, which are an eyesore, requesting people not to spit about, and such notices should be unnecessary, as it is undoubtedly a dirty habit; but what I wish to point out is that such spitting decreases the danger of infection rather than increases it, for the following reason:—Suppose a person suffering from phthisis spits in the middle of the road, what happens?—the sputum dries and the bacilli are scattered about and cannot possibly arrive in sufficient numbers anywhere so as to cause infection; on the other hand, he spits into a handkerchief time after time, and at the end of the week he sends a dozen or so handkerchiefs loaded with tubercle bacilli to a laundry; surely these are a great source of danger? Someone says, let him spit into a disinfectant in a bottle. Now, is it likely anyone would care to take out a bottle in public and spit into it. Of course not, if he did so in a railway carriage everyone would get out at the next station. He might of course put his handkerchief in a disinfectant when he got home (if he happened to know he had phthisis), but in the meantime his pockets get full of bacilli and every time he pulls out his handkerchief a cloud of these are disseminated around into his—it may be—badly ventilated office, or wherever he happens to be.

I am, Sirs, yours faithfully,

Leytonstone, N.E., March 23rd, 1903. ARTHUR TODD-WHITE.

## THE END OF A DISPUTE.

*To the Editors of* THE LANCET.

SIRS,—In THE LANCET of March 28th, p. 932, the action between Mr. E. C. A. Baines and myself is described as one in regard to slander only, ignoring the (professionally) far more important factor of an alleged breach of contract with regard to which Mr. Baines has equally withdrawn every allegation.

I am, Sirs, yours faithfully,

W. LONGWORTH WAINWRIGHT.

Henley-on-Thames, March 30th, 1903.

## LORD KITCHENER'S HOME-COMING.

THE proprietors of Bovril, Limited, have made an arrangement whereby the purchasers of bovril will be able to obtain an artist's proof of the picture by Mr. William Hatherell, R.I., entitled "Lord Kitchener's Home-Coming," at no more trouble to themselves than is required for the collection and forwarding of coupons of the aggregate value of one guinea. Until June 30th every bottle of bovril will bear a coupon varying in value in proportion to the size of the bottle; a 2-ounce bottle will bear, for example, a coupon for 1*s.* and a 16-ounce bottle a coupon for 5*s.* These coupons to the necessary value must be sent to the Bovril Company, when the picture will be forwarded. The proprietors of bovril have sent us a signed artist's proof of the picture which is an exceedingly well-executed reproduction of Mr. Hatherell's fine painting.

## HEALTH RESORTS DURING SPRING.

*To the Editors of* THE LANCET.

SIRS,—Will you allow me to ask any of your readers what in their opinion is the best place (health resort and midland counties preferred) where the east wind during the spring can be avoided? I am a sufferer from insomnia and asthma chiefly and prefer a high and dry situation, protection from the east wind being the chief desideratum. Of course, the best place is where out-door exercise on level ground is obtainable, but I fear the requirements are difficult of attainment. Leamington is the only place which I can think of and I fear that one being relaxing. Shady walks are a *sine qua non*, as the sun is my great enemy.

I am, Sirs, yours faithfully,

April 1st, 1903. MEDICUS.

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*Anxious One.*—We are unable to print our correspondent's question, but if her medical man likes to put the difficulties of the case before our readers he may obtain suggestions for treatment.

*Etiquette.*—When the appointment is vacant there is no reason in all the circumstances mentioned why our correspondent should not apply for it.

*A. L. B.* is thanked for his communication. The similarity had been pointed out to us.

ERRATUM.—In THE LANCET of March 21st, p. 837, appeared a letter from Mr. Hugh E. Hoare on "Cottage Homes for Pauper Children" in line 10 of which the words "barrack room" should have been *barrack school*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, April 2nd, 1903.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rain-fall. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb | Dry Bulb. | Remarks at 8.30 a.m. |
|---|---|---|---|---|---|---|---|---|---|
| Mar. 27 | 29·38 | S.W. | .. | 84 | 58 | 48 | 48 | 50 | Overcast |
| ,, 28 | 29·55 | S.W. | 0·06 | 74 | 57 | 47 | 49 | 52 | Overcast |
| ,, 29 | 29·91 | S.W. | 0·13 | 101 | 58 | 45 | 47 | 47 | Cloudy |
| ,, 30 | 29·80 | W. | 0·20 | 99 | 54 | 45 | 45 | 47 | Cloudy |
| ,, 31 | 29·98 | N.W. | 0·15 | 93 | 50 | 43 | 45 | 48 | Cloudy |
| April 1 | 30·04 | S.W. | ... | 62 | 52 | 42 | 44 | 46 | Overcast |
| ,, 2 | 29·82 | N. | 0·19 | 47 | 45 | 44 | 42 | 45 | Overcast |

**During the week marked copies of the following newspapers have been received:** *Worcester Daily Times, Yorkshire Post, Westminster Gazette, Evening Telegraph (Dundee), Sussex Daily News, Northern Whig, Belfast News Letter, Dublin Times, Birmingham Post, Surrey Advertiser, Notts Guardian, Bristol Mercury, Dublin Express, Bradford Observer, Hereford Mercury, Daily Graphic, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Blackburn Daily Telegraph, Devon Gazette, Truth, &c.*

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY (6th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

**TUESDAY (7th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), Soho-square (2 P.M.).

**WEDNESDAY (8th).**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

**THURSDAY (9th).**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

**FRIDAY (10th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

**SATURDAY (11th).**—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

## SOCIETIES.

**TUESDAY (7th).**—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimens:—Dr. Thursfield: (1) Adenoma of the Liver; (2) Congenital Absence of the Gall-bladder.—Dr. J. Broadbent: Sarcoma of the Sciatic Nerve. Papers:—Mr. L. Cheatle: The Relation of Carcinoma to Nerve Distribution or Trophic Areas (lantern demonstration).—Dr. Beevor and Dr. E. F. Buzzard: Suppurative Meningitis due to Streptothrix Infection.—Dr. J. H. Drysdale: Angioma of the Brain.—Mr. Shattock: The Nature of the Vacuolation in Fat-cells.—Dr. J. Broadbent: Rupture of Aortic Aneurysm into the Pulmonary Artery.—Dr. H. T. Hewlett: Rupture of Aortic Aneurysm into the Superior Vena Cava.

**WEDNESDAY (8th).**—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Discussion upon the Present Methods of Treating Consumption. There will be an exhibition of plans of sanatoriums.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

**FRIDAY (10th).**—THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (9, Adelphi-terrace, Strand, W.C.).—7.30 P.M. Council and Ordinary Meetings.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**MONDAY (6th).**—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. E. Dore: Clinique. (Skin.) 5.15 P.M. Prof. A. E. Wright: On Therapeutic Inoculation.

**TUESDAY (7th).**—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Clinique. (Medical.) 5.15 P.M. Mr. D'Arcy Power: Cancer.

**WEDNESDAY (8th).**—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Harrison: Clinique. (Surgical.) 5.15 P.M. Dr. H. Campbell: On Cerebral Softening.

**THURSDAY (9th).**—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson, jun.: Clinique. (Surgical.) 5.15 P.M. Mr. J. Cantlie: The Anatomy, Common Ailments of the Liver, and their Surgical Treatment.

## EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.*

*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

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*Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICES.

### THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

### VOLUMES AND CASES.

VOLUMES for the second half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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